Attachment 2. BCD Consultation log

Date	Attendees	Summary of discussion

14 October 2021	• BCD
	• Transgrid
	• Aurecon
	• Niche
		Update on corridor and route options:
		• PACR lodged in July 2021
		  ▪ Key change: shifted from a single circuit to a double circuit configuration
		  ▪ Result: decrease in overall alignment length and decrease in easement width i.e. less environmental impact
		  ▪ Comment period ended mid-September 2021
		• Engagement
		  ▪ July 2021 – Stowe Report released
		  ▪ July/August 2021 – Changes to Community and Stakeholder Engagement Team to improve landowner engagement and bring in line with best practice
		• HumeLink Revised Corridor
		  ▪ Released to the public in September 2021
		  ▪ Eliminated section through Bago/Green Hills State Forest
		  ▪ Eliminated section from Wagga Wagga to Gobarralong
		  ▪ Narrowed corridor in Bannaby area
		  ▪ Three route options under assessment in Tumut/Blowering area
		Key project activities completed and planned
		• Surveys completed/underway
		• Agency engagement ongoing
		• Scoping Report being updated based on revised corridor, lodgement planned for late 2021
		• Heritage surveys will commence November 2021
		• Refined 200m corridor planned February 2022, excluding the Tumut area
		Survey plan overview
		• Current spring survey is the last full season survey
		• Access is a key limitation to survey effort
		• Questions for BCD re: assumed presence
		• BCD indicated assuming presence will drive up offset costs for species:
		  ▪ Golden Sun Moth will need to be surveyed this spring (including on Category 1 lands)
		  ▪ Superb Parrot- nesting habitat would need to be avoided
		  ▪ Swift Parrot- strongly recommend completing surveys
		Avoid and mitigate considerations
		• Questions for BCD re: approach to secondary approvals and credit deferral
		• BCD has a strong preference to avoid post-approval surveys for elements that should inform the BDAR
		• EIS is based on high level design and refinement is ongoing. Transgrid are looking for opportunity to refine assumed presence species offset during the post-approval phase as design refinements are being made
		• BCD indicated that mitigation measures need to be feasible and achievable. Opportunity to justify “Avoidance” will be jeopardised

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		due to a lack of access to land and extent of survey completed. Risk with credit deferral is that credit costs may rise in the post-approval stage. Approach to mapping Category 1 lands • Questions for BCD re: pathways for determination of Category 1 lands • BCD have developed an approach that would be suitable for HumeLink assessment Assessment of prescribed impacts associated with exotic vegetation • Pine forests and exotic pastures may offer habitat for threatened species • Seeking BCD guidance on potential approaches BCD engagement plan for further consultation • Seeking to engage in regular consultation with BCD • Niche to provide information for discussion in workshops ~one week in advance • Top priority is a workshop to review existing HumeLink survey gaps and proposed approach to close these out • Longer workshops would be useful General discussion • BCD indicated there were a number of technical issues that BCD would appreciate this level of engagement on • Niche should consider advice provided by BCD to ELA regarding data gaps and to TG Snowy 2.0 Team on bushfire affected land • HumeLink team working to apply lessons learnt from other Transgrid projects where BCD have provided advice • BCD will share a list of technical issues that BCD would like to engage with HumeLink on • BCD to confirm BAM plot requirements determined for the project footprint overall and not calculated separately for each IBRA subregion. • BCD asked for copy of the current corridor
18 November 2021	• BCD • Transgrid • Aurecon • Niche	Overview and aims of workshop: • Provide an understanding of limitations to survey • Provide an update on approaches to dealing with survey limitations • Presentation of BAM principles relevant to survey limitations. • BCD indicated they were particularly interested in the allocation of 'degraded habitats' for certain species and appropriate filtering of highest risk in those areas Land access and implications for field survey: • BCD: Is Transgrid planning to use the Electricity Supply Act to gain access to property? • Transgrid: ▪ Not at this stage. As the project gets closer to approval and as property negotiations are progressing then the Act may be used to access property. Likewise with compulsory acquisition process ▪ Ongoing negotiations with landowners is focusing on Consent to Enter process. ▪ Property negotiation process is expected to commence Q1 2022

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		▪ As the corridor narrows there have been greater challenges in retaining C2Es – particularly in the Tumut area ▪ Landowners in Tumut area are pressing Transgrid to select alignment through National Parks rather than through private property • Transgrid have a Community and Stakeholder Engagement (CSE) team and significant focus is spent on landowner engagement and concerns • Access is a known key risk to the project planning at this stage • Field surveys planned until the end of February 2022 at this stage. Niche Spring and Summer surveys to supplement to ELA Autumn and Winter surveys. Access and seasonality have had to be considered throughout all survey planning undertaken to date. Current program for BDAR will not allow for Autumn, Winter or Spring surveys in 2022. • BCD comments: ▪ A program for the BDAR and the ecological surveys was requested. ▪ No SEARs yet, no alignment yet. How can the project demonstrate adequate survey coverage? ▪ Golden Sun Moth (GSM), Superb Parrots for example. No alignment finalised. No SEARs – how can sufficient survey be demonstrated? ▪ Assumed presence should be the last resort and would not be considered an appropriate method. ▪ Assumed presence is detailed in the BAM guidelines. • Niche response: ▪ Understanding of likely SEARs would indicate that surveys have been sufficient. ▪ BAM guidelines will be followed. ▪ The survey effort has captured multiple route options where relevant. • BCD are seeking reassurance that survey effort to date is sufficient. When can the survey data be provided of the survey effort for BCD review? ▪ ELA data is being unpacked. Niche are in process of consolidating the survey data and can provide prior to next BCD meeting Focus is being placed on avoidance of impacts, micro siting assets based on field surveys. Focus is on maximising survey effort in the time remaining for the process ▪ Acknowledge that the project has provided information to date and that a follow up request has been made. Effort is being made to supply BCD with data without comprising capacity for field survey • Species polygons being refined based on PCT mapping and fauna habitat dataset – being updated as new data is collected • BCD comment: Restricted access around Tumut area – considering existing easements, publicly accessible areas, Travelling Stock Reserves (TSR)? ▪ Yes – Blowering route (eastern most route) is paralleling existing easement. However, access to existing easement has also been a challenge ▪ Considering representative surveys within TSRs where possible

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		• Niche presented GSM as an example of land access implications for field surveys ▪ Historic GSM survey effort within the region and Pre-settlement Natural Temperature Grasslands mapping insufficient to inform likely habitat extent for the species ▪ Example of potential desktop GSM habitat mapping approach using LiDAR imagery discussed ▪ Remote sensing/mapping of grasslands is problematic without a high level of field validation. This may prove to be an unreliable method – apart from identifying exotic and native grasslands. ▪ Can only refine polygons that we have sight on. Exclude exotic species – but assumed presence may be required until post-approval survey can be undertaken. ▪ For those areas that can't be accessed need to consider how avoidance can be demonstrated (before the post-approval survey opportunities). Will also assist in minimising offsets to a more realistic value. ▪ There are minimum design considerations however design and placement of towers can be micro sited to avoid impacts. ▪ BCD indicated they may have some learnings from Rye Park project that could be useful for desktop mapping of GSM habitats. Noted it was a challenge to remotely map exotic grasslands. However, GSM habitat is generally compatible with placement of transmission towers. • Prescribed impacts assessment and stewardship site opportunities? ▪ Transgrid indicated stewardship site opportunities across multiple projects and regions are being investigated ▪ BCD raised point about impacts and future maintenance. Appropriate mitigation measures will need to be identified in the BDAR/EIS. • Whilst GSM are known to occur within exotic grasslands, protection of exotic grasslands due to GSM presence over native grasslands without GSM should not be considered a good conservation outcome. ▪ BCD highlighted need to consider future operational maintenance (including access tracks) and impacts on grasslands as well as weed spread around access tracks. ▪ BCD: Consider footprint direct impacts presented in PEC projects and Snowy 2.0 Transmission. For instance, access track in steep topography will need to account for erosion and sedimentation control measures. • Ensure construction impacts are assessed on biodiversity values. BCD will need to see these impacts clearly documented and appropriately considered. ▪ Indirect impacts and partial impacts are not the same and need to be separately considered and assessed ▪ Construction areas impacting biodiversity impacts would be considered direct impacts, not partial impacts if they cannot be returned to their previous biodiversity values ▪ Avoidance measures would be applied wherever possible to ensure critical habitats are not impacted by construction laydown areas

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		• Further discussion regarding opportunities where LiDAR imagery could be used to assess GSM habitat suitability including biomass, shading and exotic v native grasslands.
		• PCT mapping and modelling
		  ▪ Mapping species habitat polygons under the BAM using ESRI. This is an iterative process that considers new data as it comes to hand. Current model inputs limited to PCT/ veg zone mapping and geographic constraints. Next step is to factor in Habitat Constraints.
		• BCD: Are vegetation zones and associated BAM plot requirements calculated for each IBRA sub-region separately?
		  ▪ We would only look to use plot data from other regions where it would be above min plot requirements and would result in a more representative VI score being obtained. Use of plot data from other regions would be clearly documented within the BDAR.
		• BCD: Use of BAM plot data across multiple IBRA sub-regions would need to be considered on a case by case basis
		  ▪ Niche: Can we request new PCT assignation translations for the DPIE pre-release State Vegetation Mapping? This has been requested but have been told it will not be available until Jan 2022.
		  ▪ BCD: Translations will not be able to be released early.
		• BAM Calculator and establishment of large linear projects in the Calculator
		  ▪ BCD: Veg zones extents for each IBRA subregion will need to be clearly delineated and consistent between the BDAR, the BAM-C and the GIS spatial datasets. Direct, indirect and partial impacts for veg zones must all be documented within the one child case for relevant IBRA subregion.
		  ▪ BCD: Patch size analysis needs to consider contiguous vegetation that extends beyond the study corridor
		Category 1 lands mapping methodology
		• Niche to provide BCD with proposed methodology for comment. Niche then to complete Cat 1 mapping and provide to BCD for review.
		• BCD comment:
		  ▪ Would be useful to undertake a review of mapping accuracy by ground-truthing number of areas determined as exotic vs native grasslands. This would speak to accuracy and suitability of this desktop mapping approach for lands where survey access cannot be achieved.
		  ▪ Do not rely purely on land use mapping as an indicator.
		  ▪ Scattered trees within paddocks are considered Category 2 lands. Need to be separated out.
		  ▪ Draw around crowns unless evidence of cultivation (i.e. plough lines) under canopy.
		  ▪ Note that woodland vegetation communities can have very sparse canopy tree layer.
		Severely burnt sites and assessment methodology
		• GEEBAM superseded by FESM. BCD prefer usage of FESM method.
		• Can survey for *Caladenia montana* as per other Transgrid projects. BioNet data not that useful for this purpose. All available scientific

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		knowledge for species would need to be utilised to inform approach and whether it is suitable to undertake survey. This would need to be thoroughly documented in the BDAR and can make for a very lengthy BDAR. • Flora surveys post bushfire assessment will differ from fauna surveys • Opportunity to supplement BDAR with expert report for specific species.
16 December 2021	• BCD • Transgrid • Aurecon • Niche	Overview and aims of workshop • Overview of work completed to date • Category 1 land assessment approach • Review of current access around the Tumut area • Timing and priorities for next meeting Introductory / general discussion • Licence agreement from the mapping team for NVR. Not publicly available. ▪ Needs to be signed by the legal team beforehand • BCD: Have you talked to planning and assessment regarding inaccessible areas? ▪ Transgrid: Have brought this up and has also been an issue on PEC. Percentage includes both options around Tumut, 70% coverage. DPIE have drafted a letter to the remaining 10% of access stating that the project is CSSI. Unsure if this letter has been distributed yet. Formal landowner negotiations have commenced June 2021 this year. • How does this fit with the planning process timeline? Does this fit with the EIS? ▪ Transgrid is heading into a meeting Monday 20/12 to discuss the proposed schedule ▪ Transgrid: Want to have the Tumut decision made tail end of January 2022 and beginning of February 2022 beforehand ▪ Some cases inaccessible lands will be an issue. For example, property access to an existing easement will still need to be accessed with a police escort. Will have to use different methods for locations such as these Survey progress update: • Anticipated completion by mid-January 2022 Approach to Category 1 land assessment: • NVR 2017 layer data would be used when this becomes available • Niche indicated some of the assumptions include: ▪ All publicly available layers are assumed to be correct ▪ Consultation of historical aerial imagery was used in production of above layers and was therefore not repeated • Limitations include: ▪ Layers are raster, there are some pixelated boundaries ▪ Until we receive 2017 Woody Vegetation layer, no manual processing/checking has been done • BCD comment: ▪ Once licence agreement signed, will have the NVR map so can extrapolate out the data. It would be possible to then validate the draft set that is given against the NVR map.

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		▪ At least we need the rationale behind the approach/data and then this can be agreed ▪ Would want to spend more time on scrutinising particular areas that there isn't access to ▪ 2017 NVR data individual trees are classified as Cat 2. Draft NVR map for either PEC or Inland Rail that is they produce maps that doesn't cause any issues around privacy and having them publicly available. ▪ Just don't include as a map but rather just describe the process ▪ Niche: The preferred approach is manual corrections as well as cross-referencing against the NVR map. • BCD: Did you have a response to the methodology as we were concerned that no biodiversity assessment for Cat 1 land was undertaken? This is based on concerns across the State in relation to checking the prescribed impacts for threatened species ▪ If it was native vegetation cleared for GSM, it's not prescribed, if it is non-native vegetation cleared for GSM, then it's prescribed ▪ Don't have an updated methodology right now for the creation of offset liability for non-native vegetation. This is in draft model and currently under review ▪ Sort of use a test of significance as the tool to quantify the impact. However, offsetting needs to be discussed on a case by case basis ▪ Prescribed impact can also be direct impacts, such as clearing ▪ Talking about offset amount, this doesn't mean that you apply mitigation values ▪ Difficult to predict what will happen with offsets. Once you determine what your impacts and values are then have a basis for requirements. Let the process flow through and then come back together to discuss what the outcomes are. Alternatives of on ground survey based on access conditions: • Transgrid: Decision will be made in Jan/Feb for Tumut/Blowering routes • Niche: conversation with DPE regarding acceptable level of access and also what can be progressed in the meantime • BCD: Have you done an analysis against the previous slide for the percentage of inaccessibility? Have you had a look at how much you can reduce the percentage using the other options for survey? • Niche: remote survey options being considered for inaccessible lands include aerial LiDAR survey, use of public access points, drone/ helicopter surveys. • BCD: could there be issues with drone access then? For example, would you need property access? • Transgrid: ▪ Can't fly over people's properties with prior consent ▪ Proposed towers are higher than the existing ones located north of Greenhills State Forest. The existing spans a number of gullies and the engineers are currently looking at ways to mitigate impacts

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		• BCD: are you looking at the height on the lines and the height of the trees? • Transgrid: there is a specified separation distance between the two. Working with the easement management team and the engineers, looking at what portions to span • Niche: Land access issues may increase offset cost estimates and perversely incentivize higher constraint route options. Also to note, where alternative route options considered to avoid impacts, this means that it moves it from an area previously surveyed to an area that can't be accessed or hasn't been surveyed. Therefore, this leads to larger areas that you'd have to assume presence and in the long run doesn't necessarily cost less ▪ BCD: maybe the project needs a longer timeframe to allow for access and be able to gain access to survey these areas? ▪ Moving areas is a secondary avoidant impact. Would prefer to have Cat 1 land without threatened species.
24 January 2022	• BCD • Transgrid • Aurecon • Niche	Overview and aims of workshop: • Assist in defining a starting polygon for: areas requiring targeted survey and in the absence of survey would require assumed presence for each species (and hence a species polygon • Discuss priority fauna species that are considered higher risk (in terms of impacts, higher cost) or for which there is potential to significantly reduce survey areas based on agreed to limiting/ degraded habitat factors and alternative/supplementary survey approaches HumeLink species list and methodology: • Refer to species habitat modelling methodology supporting documentation • Species list for all species listed in the IBRA subregions • Niche indicated the preliminary species model has only been run once, uses GIS analysis that applies BAM methodology • BCD comment: ▪ This process did not occur on PEC East and West and Inland Rail. o These projects started at PCT level first. o This methodology will need to be agreed upon. ▪ BAM calculator allows for PCT data to be ticked that will identify species o Can confirm BioNet geographic constraints data for HumeLink project area has recently been reviewed and updated in the BAM calculator o Current BAM rule: Can only exclude species if their habitat constraints are not present (eg. can only exclude Powerful Owls if suitable breeding hollows are not present) o For the BAM calculator, you need a separate case for each IBRA subregion o BAM was set-up to assess large linear projects also o Veg validations should be undertaken rather developing a model that has never been undertaken before. BCD are not comfortable with development of

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		models. BCD may not agree with outcomes of a model and that may result in the loss of time and cost. o BCD want an understating of how the process works and ensure that this is clear in the reporting • Niche comment: ▪ BAM calculator can be limiting when assessing large linear projects and does not allow for geographic representation of habitat extent. Therefore a methodology that applies the BAM methodology has been developed for this purpose. BAM calculator can also result in over estimate of species requiring targeted survey. ▪ Model has not been developed to replace vegetation survey but rather to supplement/improve the BAM methodology to develop project specific, site specific data that the BAM does not allow for. Development of a spatial tool that allows for most accurate species surveys for the HumeLink project. Will allow a level of transparency that the BAM calculator desktop method does not always allow. ▪ Concerns will be taken on board as to how the model aims at improving limitations in the BAM calculator and aim to respond to BCD regarding to these concerns. • Question on the Flow Chart in the model methodology document – what BCD need is to understand exactly what data and the name/source of the datasets that have been used so that BCD can provide guidance on limitations of the datasets. Example: some of the datasets are state-wide and may have limitations when being applied to the modelling at site-specific scale. ▪ Niche will only be using datasets that would be considered fit for purpose along with data collected from site. Defining a starting polygon • Niche: Species model would be used to explain why species has been dropped from BAM calculator • Example with squirrel gliders – patch size is not a good indicator here ▪ Niche: Individual hollow trees would be surveyed in such an example. PCT mapping discussion • PCT mapping accuracy is critical. BCD will provide feedback on this separately. • Land access limited, Niche require additional site access to improve mapping confidence Discussion of high priority fauna species • Gang Gang Cockatoo ▪ BCD: could look to implement age class mapping to identify mature stands of trees in forest. Has been used before for glider and Glossy Black-cockatoo habitat mapping. ▪ Niche has been using height data derived from LiDAR data to map vegetation height ▪ BCD: the process requires a lot of ground-truthing and may not be a suitable alternative ▪ Advice to other Snowy projects was that this could not be done and therefore they had to assume presence. ▪ Recent bushfires have impacted ability to assess canopy remotely

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		▪ BCD: recommend design/ clearing assumptions are finalised with Transgrid so that clearing avoidance measures can be locked in ▪ Transgrid: where possible, designing to limit impacts is being considered o Lessons learnt from PEC projects are considered. Contractor is not currently on board so Early Contractor Engagement not currently occurring but lessons learnt from PEC will be considered at this stage and these can be passed on to the contractor as part of contract specifications. ▪ Bushfire affected areas could be removed from the modelling processes. • Glossy Black-cockatoo ▪ BCD: species can travel and move over large scale areas. Local presence of *Allocasuarina* can be used as a good indicator of species presence but breeding still reliant on hollow presence. • Powerful Owl & Masked Owl ▪ BCD: species requires presence of old growth hollow bearing trees ▪ Paddock habitats would still need to be considered where in direct proximity to habitats with suitable vegetation/ hollows ▪ Any deviation from BAM guidelines – a requests needs to be put to BAM Support (via email). For example – deviation from buffer distances for large owls • Squirrel Glider ▪ BCD: presence of acacia in mid-storey is pretty important. Usually associated with presence of squirrel gliders. o Presence of the food source is normally associated with presence of habitat so should inform both breeding and foraging habitat o If the trees are scattered (more than 100m apart) it is unlikely that they would be used by squirrel gliders. This may not be in the BAM however research suggests that gliding cannot occur a distances greater than this. Therefore they could be excluded at these greater distances of tree scattering. • Superb Parrot ▪ BCD: very difficult species to exclude as known to nest in paddocks where suitable hollows are present. Will come down to presence of hollows. • Eastern Pygmy Possum ▪ BCD: the species won't occur in relictual (i.e. <10% cover) landscapes o Unlikely to occur where mid-storey is absent - lack of nectar sources ▪ Niche: LiDAR information (height of vegetation layers) can be relied upon to inform lands with no mid-storey present o BCD: what is the buffer for the LiDAR information with relation to the offset of the HumeLink alignment and the existing powerlines. Need to consider the entire patch associated with the species.

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		• Large-eared Pied Bat
		  ▪ Niche indicated have been moved to full species credits
		  ▪ BCD: would need to get specialist advice on these
		  ▪ Likelihood of presence in subregions – can be passed on to species specialist
		• Sloane's Froglet
		  ▪ BCD: put together the layers that have been used that are associated with mapping and modelling and this can be taken to the species specialists for feedback
		• Brush-tailed Phascogale & Koala
		  ▪ BCD: if anywhere, they are likely to be in the north-east of the alignment towards the Bannaby area
		  ▪ Can BCD provide any guidance on identifying surveys areas in the absence of species records?
		  ▪ BCD: Derived Native Grassland (DNG) mapping should be prioritised and be brought into the model
		  ▪ BCD: mapping of woodlands CEEC – Can this be relied upon?
		  o Start with SEED. Can you provide a list of PCTs/TECs?
		  o Niche will provide
		• Priority grassland fauna species
		  ▪ Pink-tailed Legless Lizard
		  o Niche need to ensure we are gathering the correct habitat information on the ground
		  o Requested to send through species specific question to BCD
		  ▪ Striped Legless Lizard- expert report
		  ▪ Golden Sun Moth
		  o Niche indicated poor survey season due to colder, wetter summer
		  o BCD: January may have been better however if not, mapping may need to be relied upon here.
		Other business
		• Can the source of the habitat constraint please be included in the species list. This will help inform BCD in their analysis of the species list.
		• BCD requested to get a clearer understanding on where field-based verification is being relied upon and where state-wide mapping is being relied upon within the Vegetation Zones dataset provided. Can this be clarified?
		  ▪ Niche indicated all mapping provided has been developed based on field-based mapping
		  ▪ Areas not mapped will rely on state-wide mapping
		  ▪ State-wide mapping has been used to identified survey requirements

1 July 2022	• BCD • Aurecon • Niche	General • Challenges of the BAM and applying it to a large linear project • Seeking BCD endorsement of planned approach Method for mapping Cat 1 lands: • BCD indicates they are comfortable with Niche's approach. This is in keeping with what had been discussed in previous workshops between HumeLink and BCD. • Written justification required if mapping Category 2 lands

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		• BCD: What is happening with the 29 differences identified in the NVR mapping? If there is conflicting data, then taking precautionary principal. • Niche: NVR mapping shows some differences between Cat 1 and Cat 2. In these instances, would be deferring to Cat 2. Filtering processes under the BAM for species credit species: • BCD comments: ▪ Can justification not be included in the BDAR as to how a value was developed and impacts on subsequent calculations. ▪ You cannot capture it in the BAM calculator, but it can be justified in the BDAR. If your reasoning for how/why this value changes across the alignment is captured in the BDAR – then this is how you capture and justify your method within the spatial data rather than in the BAM calculator. You end up treating the different spatial data as separate records of that given unit. Justification must be included in the spatial data. ▪ Is there a risk that some species (shown in Table 2 in information provided) will be left out? • Niche comments: ▪ Calculator only allows for a single value to be entered for the development despite long linear projects having a range of native veg cover values from end to end ▪ Will require revision, but the filters are legitimately allowed for under the BAM for good reason. The “relictual” cover species will always be included as they only require 10% score. However, “intact” species will be removed where we assess the score to be below 70% ▪ Looking for an agreement from BCD of this approach to target species and exclude certain credit species from certain areas based on this approach. • Niche looking for feedback on what is considered native vegetation and what is not considered in native vegetation • BCD comments: ▪ Derived native grasslands have to be included in native vegetation calculations. Derived native grasslands would still be included as a candidate species. ▪ Providing justification within the BDAR from literature etc as to why this scenario has been excluded for X or Y species ▪ Using a secondary native vegetation cover approach to justify your survey approach needs to be justified in the BDAR. However, the standard approach needs to be taken at the front end of the BAM calculator, and then justifying the secondary approach in the BDAR. ▪ A VI plot would need to be used to justify any approach outside of the BAM 2020 approach. • Niche comments: ▪ Challenge of derived native grasslands PCTs. The main point is that once canopy cover is removed certain species of fauna species will no longer use the derived PCTs. ▪ Example Sooty Owl breeding habitat, once the canopy cover is removed across the landscape these areas would no longer be used and surveys never find such species. As such,

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		the need to include derived native grasslands and native cover becomes problematic when trying to assess. Uncertain if the current BAM methodology allows for a discount to native cover to be applied in these scenarios. ▪ The other issue is the change of rules to derived native vegetation between 2017 and 2020. The approach to removal of canopy cover has been updated but the candidate species have not been updated to reflect this change in rules. ▪ Will end up choosing the highest value in the calculator to acknowledge that there are areas of high native cover (we do not wish to remove species where it is appropriate to consider them) then we intend to apply filters in particular areas (of low cover) and justifying in the BDAR and with spatial data how the HumeLink approach was derived. Access • Niche indicated an improvement to access and alignment has been refined • BCD: It would be good to identify which areas have been subject to intensive investigation in the spatial data • Niche agreed that an update of survey coverage would be provided. It was communicated that the supplied vegetation mapping layer indicates where field survey has been completed. Patch size • BCD indicates Niche's suggested approach seems reasonable, seems to conform with the BAM methodology • Niche seeking feedback on large scale patch sizes and allocation of patch size within the same vegetation zones for example. Looking at opportunity to work outside of the calculator to split up patch size classes across a PCT zone. • BCD comments: ▪ Will only be an issue in areas where you are over the condition threshold. May find it easier to split into two zones and use the BAM calculator. Or, if you have hundreds of zones and justify why patch sizes were excluded due to small size or isolation from other areas of vegetation. Think about how you can make this clear-cut justification in the BDAR. ▪ Using the BAM calculator for all of this will have benefits later in the HumeLink project process, especially post-approval updates. I would be much more comfortable all of this being included in the calculator. The scenario discussed shouldn't have an impact on the calculations as these will be smaller or poorer quality areas. ▪ Having very strong "line of sight" justification of your approach in the BDAR will be critical ▪ When we receive mountains of field data and then review BAM calculator and the BDAR, if there is not a strong justification why certain things are being done with candidate species that may not be reflected in the spatial data then this can make it very difficult to review the BDAR. Do not just say "no" or "null". Take the time to include robust justification.

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		▪ Include rationale and clear steps as to how you have got to where you got to. A likelihood of occurrence table could be useful here. ▪ Will need to see this to be confident of the robustness of the survey effort. This will be critical over a project of this size. • Niche comments: ▪ Will like to use the BAM calculator wherever we can. However, there we will have to work out if this becomes unwieldy. ▪ So long as the outcomes are in accordance with BAM intentions, we are happy to make this the preferred method. Next steps ▪ BCD: Snowy 2.0 approach of having species specialists who were intimate with the species that may have been pulled into the assessment due to proximity to local records or historic records, having species specialists provided great benefits in justifying why particular species could be excluded. ▪ BCD to provide formal feedback. Other business: ▪ BCD noted to consider Match Stick Grasshopper. This has been added to the species list and will be pulled into the assessment across all regions. Conclusions/Actions ▪ General acceptance and support at face value on the methods being proposed and their application to address the BAM assessment. Further consideration will need to occur based on how some of the identified methods would be implemented and results ▪ BCD to present methods to the BAM support team and other relevant staff for further consideration ▪ Niche to provide an update on survey coverage and refined footprint ▪ Next meeting agenda items to be developed and communicated ▪ Niche to include any assumptions and methods around use of patch size and native vegetation calculations within their BDAR/supporting documentation. It will be important for BCD to have clarity on how and where certain decisions have been applied and what impact this has for example on specific species ▪ Some case examples would be useful to look at in future consultation.
24 August 2022	• BCD • DPE • Transgrid • Aurecon • Niche	Meeting outline and objectives • Survey coverage, BCD's position on BAM compliance and survey adequacy • Accessible and inaccessible areas – strategies to address survey gaps Survey access to date • BCD request for data gaps to be addressed, if BCD identifies any on properties for which C2Es have been revoked?

Date	Attendees	Summary of discussion
		▪ Effort was provided by Niche in the previous PDF document issued to BCD, does not identify effort per property but within associated IBRA subregion. There are not many properties where access has been revoked. Accessible areas: Survey approach to date • Unlikely to satisfy survey guidelines in all areas for species and will rely on assumed presence and expert opinion (including input from BCD or expert reporting) where there is a shortfall in survey effort. E.g. Golden Sun Moth – weather conditions were not conducive to sightings. Likely to have another wet summer. • Niche do not intent to revisit surveyed areas unless BCD consider critical for further analysis and highlights the need for further survey at specific sites • BCD still digesting all the information provided by Niche. • BCD are interested in the unsurveyed areas and Niche's approach to addressing gaps. Inaccessible areas: Land access prioritisation • Niche approach has been based on prioritisation and likelihood and timing of future access • Niche continuing to seek new access – survey planned for September and October • Probable C2Es – Survey early to mid-2023, all remaining land to be covered post approval. Transgrid continuing to seek additional C2Es. Percent coverage are a best guess based on land owner sentiment. • Niche look to balance conservatism with knowledge of comparable areas and results from representative areas. Also including expert input from BCD and others. • Making use of high-quality LiDAR imagery captured in 2022 for HumeLink. Next steps / discussion items • BCD comments: ▪ BDAR will need to clearly explain how avoidance has been demonstrated, which can be difficult for long linear projects. How it all fits in to the BDAR will need to be thought about. ▪ BCD to provide thoughts on what BCD are looking for in terms of avoidance and mitigation. ▪ Has Transgrid considered playing with the tower heights to minimise vegetation clearing requirements ▪ How will you address partial impacts? How are defining high conservation values (HCV) – e.g. areas that may not be EECs but have high value habitat? How you will use this to demonstrate avoidance? o BCD keen to discuss approach to partial impacts early on in the process. • Transgrid comments ▪ Tower heights will only be considered on a case-by-case basis where it will deliver most benefit. Consideration of minimising TECs has already taken place at a high level, especially with route selection. • Niche comments: ▪ Will need to finalise Cat 1 lands determination and application in relation to CEECs

Date	Attendees	Summary of discussion
		▪ Is the BCD/DPE concerned that there is risk in approving based on a project offset obligation that could change when further survey work is completed post-approval for areas that could not be ground-verified? BCD/DPE did not comment on whether they were concerned about approach. ▪ Developed a framework using ESRI GIS software for the identification of HCV. o Would like to get BCD input into how partial impacts should be quantified. • Niche are looking at undertaking plots in existing easements to provide rigor to the calculation of future VI within areas of partial clearing. Will need to understand if the BCD are wanting the BDAR to document the future VI immediately post-construction or in the longer-term once impacts from clearing have stabilised. ▪ BCD: it would be really good to see a subset of the spatial data (i.e. habitat mapping/species polygon process), as this will provide BCD with a greater understanding of the steps taken to assign species polygons to areas o Niche could provide as part of upcoming species specific workshops o BCD will provide a written response on the information provided. • DPE: would prefer to avoid significant updates to the BDAR between the Adequacy Review and Response to Submissions phase. We will contact AK about this comment as the audio was an issue.
19 October 2022	• BCD Southeast • BCD Southwest • BCD species specialists • Transgrid • Aurecon • Niche	Meeting outline and objectives • Review of objectives against BAM requirements • Overview of relevant data sources used to conduct steps 5.2 – 5.3 of BAM 2020 • Workshopping for each species to achieve the objectives - application of 5.2.2 – 5.2.5 of BAM 2020 • Confirmation of outstanding queries to be resolved. Review of objectives against BAM requirements • Niche looking to focus discussion on filters that can be applied as a part of the BAM habitat suitability assessment (BAM 2020 Section 5.2-5.3) including vagrancy and habitat constraints considerations for candidate species. Overview of relevant data sources used to conduct steps 5.2 – 5.3 of BAM 2020 • Data comes from BioNet and incorporated into the BAM calculator • Largest patch size has been assumed • Species list per IBRA sub-region to be updated following BCD feedback • Niche have developed species list in spreadsheet by adapting the BAM calculator with the BioNet data exports ▪ Developed to the purposes of ongoing consultation and workshops ▪ BDAR will present species list as generated by the BAM Calculator. Species workshop for each species to achieve objectives – application of 5.2.2. – 5.2.5 of BAM 2020

Date	Attendees	Summary of discussion
		• Refer to attached spreadsheet for BCD comments and assigned actions where relevant for each species discussed. Next steps / discussion items • Frog and bat specialists at BCD to be consulted on species as assigned • Broad-headed Snake and GHFF – some spatial analysis required to be provided to BCD to justify approach. Niche to provide BCD with karst and cliffline mapping for review • Flora to be discussed at a future workshop • Niche provided 2x data sets ▪ Areas provided for full clearing and partial clearing (note: access tracks currently missing) ▪ Revised veg zone mapping for the project footprint.

Attachment 3. Vegetation within category 1- exempt land

Table A1- 1 to Table A1- 5 outlines the vegetation zones occurring within Category 1 exempt lands mapped according to the Native Vegetation Regulatory (NVR) Map method statement (DPE, 2022). Each table represents a separate IBRA subregion. Pink cells are vegetation zones identified as high conservation value. These have been excluded from the final Category 1 lands map and clearing impacts associated with these vegetation zones fully considered within the BDAR. Note that no Category 1 exempt lands were mapped within the Snowy Mountains IBRA subregion.

Table A1- 1: Vegetation zones within Category 1 exempt lands mapped for the Bondo IBRA subregion

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
0	Non-native	No	11.75	0.02	0.00	0.00
285	Very low	No	0.71	0.00	0.00	0.00
953	Low	No	0.13	0.01	0.00	0.00
953	Very low	No	25.27	3.93	0.00	0.01
9996	Non-native (road)	No	0.46	0.08	0.00	0.00
9997	Non-native (waterbody)	No	0.42	0.02	0.00	0.00

Table A1- 2: Vegetation zones within Category 1 exempt lands mapped for the Bungonia IBRA subregion

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
0	Non-native	No	82.00	13.51	0.04	0.00
283	Moderate	Yes – moderate condition CEEC	0.16	0.04	0.00	0.00
283	Low	Yes – CEEC	0.19	0.07	0.00	0.00
870	Very high	Yes – high condition	0.01	0.00	0.00	0.00
1093	Very high	Yes – very high condition	0.08	0.01	0.00	0.00
1093	High	Yes – high condition	0.14	0.07	0.00	0.02
1093	Moderate	Yes – moderate condition	0.90	0.08	0.00	0.00
1093	Low	No	8.74	0.79	0.01	0.02
1097	Very low	No	5.84	0.78	0.02	0.00
1150	High	Yes – high condition	0.09	0.00	0.00	0.00
1150	Moderate	Yes – moderate condition	0.13	0.08	0.00	0.00
1150	Low	No	0.79	0.14	0.00	0.00

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
1330	Very high	Yes – very high condition CEEC	0.18	0.01	0.00	0.00
1330	Low	Yes - CEEC	82.92	12.07	0.10	0.02
1330	Very low	Yes - CEEC	0.35	0.00	0.00	0.00
9996	Non-native (road)	No	1.98	0.40	0.00	0.00
9997	Non-native (waterbody)	No	1.69	0.16	0.00	0.00
9998	Planted vegetation	No	0.96	0.14	0.00	0.00

Table A1- 3: Vegetation zones within Category 1 exempt lands mapped for the Crookwell IBRA subregion

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
0	Non-native	No	243.42	18.65	0.00	0.001
280	Moderate	Yes – moderate condition CEEC	0.02	0.00	0.00	0.00
280	Low	Yes- CEEC	1.08	0.09	0.00	0.00
283	Moderate	Yes – moderate condition CEEC	0.52	0.12	0.02	0.02
283	Low	Yes – CEEC	0.22	0.00	0.00	0.00
283	Very low	Yes – CEEC	15.19	1.75	0.00	0.00
679	Moderate	Yes – moderate condition CEEC	0.15	0.00	0.00	0.00
679	Low	Yes - CEEC	2.15	0.31	0.04	0.00
727	Very high	Yes – high condition	0.07	0.02	0.00	0.00
727	Moderate	Yes – moderate condition	0.02	0.00	0.00	0.00
727	Very low	No	5.78	0.00	0.00	0.00
731	Moderate	Yes – moderate condition	0.84	0.27	0.09	0.00
731	Low	No	6.23	0.22	0.03	0.00
731	Very low	No	2.26	0.14	0.00	0.00
952	Moderate	Yes – moderate condition	0.02	0.00	0.00	0.00
952	Low	No	18.54	1.88	0.00	0.00
952	Very low	No	13.92	0.94	0.00	0.00
1093	High	Yes – high condition	0.15	0.00	0.00	0.00
1093	Moderate	Yes – moderate condition	0.83	0.00	0.04	0.00
1093	Low	No	7.15	0.57	0.00	0.00

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
1093	Very low	No	60.05	4.95	0.01	0.00
1151	Moderate	Yes – moderate condition	0.15	0.08	0.00	0.00
1151	Low	No	0.01	0.00	0.00	0.00
1151	Very low	No	0.20	0.00	0.00	0.00
1256	Low	No	2.01	0.25	0.00	0.00
1330	High	Yes – high condition CEEC	0.72	0.07	0.00	0.00
1330	Low	Yes - CEEC	42.53	3.66	0.13	0.04
1330	Very low	Yes - CEEC	99.70	9.93	0.06	0.02
9996	Non-native (road)	No	4.06	0.31	0.01	0.00
9997	Non-native (waterbody)	No	3.29	0.02	0.00	0.00
9998	Planted vegetation	No	5.97	0.56	0.15	0.03

Table A1- 4: Vegetation zones within Category 1 exempt lands mapped for the Inland Slopes IBRA subregion

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
0	Non-native	No	664.11	94.96	0.24	0.44
5	Low	No	1.11	0.05	0.00	0.00
266	High	Yes – high condition CEEC	22.22	1.79	0.24	0.13
266	Low	Yes - CEEC	141.73	15.80	0.21	0.03
268	High	Yes - high condition CEEC	0.15	0.00	0.00	0.00
268	Low	Yes - CEEC	21.46	1.77	0.00	0.00
277	High	Yes – high condition CEEC	2.64	0.14	0.20	0.08
277	Moderate	Yes - moderate condition CEEC	3.96	0.31	0.09	0.08
277	Low	Yes – CEEC	21.98	1.47	0.52	0.46
277	Very low	Yes - CEEC	525.64	42.52	0.42	0.15
278	High	Yes – high condition CEEC	0.51	0.04	0.01	0.01
278	Moderate	Yes - moderate condition CEEC	1.83	0.04	0.25	0.10
278	Very low	Yes – CEEC	43.81	3.96	0.10	0.04
280	High	Yes - high condition CEEC	10.29	1.25	0.13	0.06
280	Moderate	Yes – moderate condition CEEC	22.50	1.38	0.20	0.06

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
280	Low	Yes – CEEC	0.55	0.00	0.00	0.00
280	Very low	Yes – CEEC	160.22	14.06	0.35	0.18
287	Moderate	Yes – moderate condition	2.28	0.09	0.08	0.01
287	Very low	No	28.64	1.64	0.04	0.0007
290	High	Yes - high condition	0.13	0.00	0.00	0.00
290	Low	No	8.37	0.33	0.05	0.01
290	Very low	No	78.88	5.95	0.07	0.00
299	Moderate	Yes – moderate condition	0.08	0.00	0.00	0.00
299	Low	No	0.03	0.00	0.00	0.00
299	Very low	No	3.53	0.00	0.00	0.00
301	Moderate	Yes – moderate condition	0.36	0.10	0.00	0.00
301	Low	No	0.34	0.00	0.00	0.00
306	High	Yes - high condition	0.04	0.00	0.00	0.00
306	Low	No	17.79	0.74	0.00	0.07
306	Very low	No	215.71	5.67	0.00	0.04
314	Moderate	Yes – moderate condition	2.93	0.02	0.09	0.04
314	Low	No	5.04	0.00	0.00	0.00
314	Very low	No	53.86	2.02	0.00	0.03
316	Moderate	Yes – moderate condition	0.88	0.05	0.00	0.00
316	Low	No	6.07	0.74	0.00	0.00
319	High	Yes - high condition	0.03	0.00	0.00	0.00
319	Low	No	34.57	1.42	0.00	0.00
343	Moderate	Yes – moderate condition	2.30	0.36	0.06	0.00
343	Low	No	0.06	0.03	0.01	0.00
343	Very low	No	26.91	2.16	0.03	0.05
352	Moderate	Yes – moderate condition CEEC	0.20	0.00	0.00	0.00
352	Low	Yes – CEEC	13.63	0.27	0.00	0.00
352	Very low	Yes – CEEC	133.88	0.46	0.00	0.00
731	Low	No	0.17	0.00	0.00	0.00
731	Very low	No	7.17	0.69	0.00	0.00
1191	Moderate	Yes – moderate condition CEEC	0.03	0.00	0.00	0.00
9996	Non-native (road)	No	14.78	1.15	0.03	0.01

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
9997	Non-native (waterbody)	No	13.01	0.23	0.00	0.00
9998	Planted vegetation	No	5.90	0.60	0.03	0.01

Table A1- 5: Vegetation zones within Category 1 exempt lands mapped for the Murrumbateman IBRA subregion

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
0	Non-native	No	142.12	11.42	0.08	0
5	Low	No	0.03	0.00	0.00	0.00
266	Moderate	Yes - moderate condition CEEC	0.28	0.08	0.00	0.00
266	Low	Yes - CEEC	31.15	2.60	0.07	0.00
277	Low	Yes – CEEC	0.16	0.00	0.00	0.00
278	Very low	Yes – CEEC	0.14	0.01	0.00	0.00
280	High	Yes - high condition CEEC	0.39	0.04	0.00	0.00
280	Moderate	Yes – moderate condition CEEC	4.08	0.54	0.05	0.00
280	Low	Yes - CEEC	54.22	5.41	0.01	0.00
280	Very low	Yes - CEEC	2.59	0.22	0.00	0.00
283	High	Yes – high condition CEEC	0.36	0.05	0.02	0.00
283	Moderate	Yes - moderate condition CEEC	0.17	0.03	0.02	0.00
287	High	Yes - high condition	0.07	0.00	0.00	0.00
287	Moderate	Yes – moderate condition	0.03	0.00	0.00	0.00
287	Low	No	2.93	0.65	0.07	0.00
287	Very low	No	8.51	0.80	0.02	0.00
322	High	Yes - high condition	0.03	0.00	0.00	0.00
322	Very low	No	0.61	0.00	0.00	0.00
349	Moderate	Yes – moderate condition	1.06	0.33	0.01	0.01
349	Low	No	25.31	0.89	0.00	0.00
351	Moderate	Yes – moderate condition	0.40	0.01	0.00	0.00
351	Low	No	6.14	0.44	0.02	0.01
351	Very low	No	53.95	4.64	0.00	0.00
352	Moderate	Yes – moderate condition CEEC	3.34	0.41	0.05	0.02

PCT	Condition	High conservation value	Project footprint (ha)	Indicative disturbance area (ha)		
				FCZ	ECZ	HTZ
352	Low	Yes – CEEC	1.52	0.12	0.05	0.00
352	Very low	Yes - CEEC	21.94	1.52	0.03	0.03
731	High	Yes – high condition	0.75	0.00	0.01	0.00
731	Very low	No	2.13	0.00	0.00	0.00
1093	Moderate	Yes – moderate condition	1.10	0.02	0.00	0.00
1093	Low	No	0.28	0.05	0.00	0.00
1093	Very low	No	31.28	2.29	0.01	0.00
1256	Very low	No	1.40	0.05	0.00	0.00
1330	Very high	Yes – very high condition CEEC	0.01	0.00	0.00	0.00
1330	High	Yes – high condition CEEC	0.25	0.00	0.00	0.00
1330	Moderate	Yes – moderate condition CEEC	6.62	0.34	0.10	0.05
1330	Low	Yes – CEEC	56.97	4.25	0.62	0.15
1330	Very low	Yes - CEEC	295.52	24.95	0.23	0.21
9996	Non-native (road)	No	3.99	0.28	0.01	0.00
9997	Non-native (waterbody)	No	3.06	0.00	0.01	0.00
9998	Planted vegetation	No	5.10	0.32	0.10	0.02

Attachment 4. Assessment against the DPIE (2020) burnt area guideline

This attachment presents the results of bushfire assessments undertaken within lands impacted by the 2019-20 Dunns Road Bushfire. A total of 97 assessments were completed in accordance with the *'Guideline for applying the Biodiversity Assessment Method at severely burnt sites'* (DPIE, 2020e), including:

- 39 initial site assessments completed by ELA within 9 months post-fire (Table A4- 2)
- 58 subsequent site assessments completed by Niche approximately three years post-fire (Table A4- 1).

The results of the assessment are presented below relative to each vegetation zone and Fire Extent Severity Map (FESM) category.

Table A4- 1: Severely burnt vegetation zones and assessment against the DPIE (2020e) guideline – Niche 2022

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 268_Low									
WM05307 (575292, 6087237)	17/5/22	Inland Slopes	Low severity	DNG, no canopy, Downslope gully woodland largely in burnt with minor trunk scorch. Clay, Siltstone or mudstone outcrops scattered, Within Hills, on Mid slope, 413 AHD; 15/20 degrees slope NE facing 29 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					metre, New Leaf occurring: No				
WM05302 (575802, 6087155)	17/5/22	Inland Slopes	High severity	Good condition DNG low slope, no canopy. Much of the same condition; Clay, Siltstone and mudstone rocky outcrops, Within Hills, on Lower slope, 338 AHD; slope 5 degrees; NW 295 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM05304 (574722, 6087206)	21/9/22	Inland Slopes	Low severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					metre, New Leaf occurring: **Yes**				
Vegetation Zone: 268_High									
WM05305 (575059, 6087216)	21/9/22	Inland Slopes	High severity	Clayey loam, Within Hills, on Upper slope	Trees Species Richness unidentified: **Yes**, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: **Yes**	Understorey plants consumed: No, Understorey regrowth present: **Yes**	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: **Yes**	Logs consumed: **Yes**, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05306 (578383, 6087023)	17/5/22	Inland Slopes	High severity	Signs of trunk scorch evidence; Burnt white box, *E. blakelyi*. Opposite hillslope with easterly aspect shows little to no evidence of fire; Clay, Siltstone mudstone outcrops on surface, Within Hills, on Upper slope, 416 AHD; slope 20 degrees; W 274 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM05308 (574928, 6087100)	21/9/22	Inland Slopes	Moderate severity	Clayey loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM057E26 (577278, 6086952)	19/5/22	Inland Slopes	High severity	Lower slopes/ gully, 2-3 years post fire regeneration; Good condition regenerating, Clay, scattered rocky surface, Within Hills, on Lower slope, 560 AHD; 259 degrees W facing slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM05401 (575457, 6087117)	21/9/22	Inland Slopes	High severity	Low intensity fire, little scorching up trunks; Clayey loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0570CB (574632, 6087148)	20/9/22	Inland Slopes	Moderate severity	Clayey loam, within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
WM057513 (577170, 6086993)	20/9/22	Inland Slopes	High severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM057EEF (577352, 6087064)	20/9/22	Inland Slopes	Moderate severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
Vegetation Zone: 277_Very low									
WM05301 (574305, 6087296)	17/5/22	Inland Slopes	High severity	Grazed DNG fair condition mid slope; Adjacent PCT consistent in floristics and condition. Clay, No rocky outcrops, Within Hills, on Lower slope, 321 AHD; slope 5/10 degrees; NE 39 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 285_Low									
MA0141C2 (595976, 6080522)	21/9/22	Bondo	Extreme severity	Clayey loam, Within Low hills, on Creek/river terrace.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
MA014308 (596343, 6080402)	21/9/22	Bondo	High severity	No unburnt PCTs to be seen; Clayey loam, Within Low hills, on Depression.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt [No site photo available]

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA014B10 (596335, 6080445)	21/9/22	Bondo	High severity	No unburnt PCTs to be seen; Clayey loam, Within Low hills, on Depression.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
Vegetation Zone: 290_Low									
WM058C05 (578786, 6086820)	20/9/22	Inland Slopes	Unburnt	Unburnt PCTs appear to be in a moderate condition looking from here, Clayey loam, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable.	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 290_Moderate									
WM0576F4 (578531, 6087035)	19/5/22	Inland Slopes	Extreme severity	2–3 years post fire DNS; 290 Derived Native Shrubland due to immature canopy species from manual removal and fire; Surrounding PCTs appear denser in canopy foliage however the canopy in this area has been removed manually; Clay, Scattered rock surface of siltstone, Within Hills, on Mid slope, 629 AHD; 20 degrees slope; 269 W facing slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05927D (578849, 6087023)	2/6/22	Inland Slopes	Moderate severity	Surrounding trees with scorch marks, 20% canopy consumed, Clayey loam, Within Low hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 297_Low									

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05804F (580274, 6086801)	20/9/22	Inland Slopes	Moderate severity	Evidence of fire on adjacent Ridge line with canopy consumed in patches, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 297_Moderate									
WM058A55 (579505, 6086898)	20/9/22	Inland Slopes	High severity	Clayey loam, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0589EA (580118, 6086847)	20/9/22	Inland Slopes	Unburnt	Site within Hills, on Ridgeline. Evidence of fire on adjacent Ridge line with canopy consumed in patches.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 299_Very low									
MA0148EB (593666, 6081282)	21/9/22	Inland Slopes	High severity	No unburnt PCTs to be seen; Clayey loam, Within Low hills, on Creek/river terrace.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 299_Moderate									
WM06034721 (601603, 6078634)	21/9/22	Bondo	High severity	No unburnt PCTs seen from here, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt [No site photo available]
WM06034850 (601809, 6078649)	21/9/22	Bondo	High severity	No unburnt PCTs seen from here, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM06034DDA (601685, 6078646)	21/9/22	Bondo	High severity	No unburnt PCTs seen from here, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
WM0940C2 (607979, 6061008)	15/5/22	Bondo	Extreme severity	Severely burnt, Clayey loam, Within Rise, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 300_High									
WM0945E7 (611648, 6053235)	17/5/22	Snowy Mountains	High severity	From here adjacent areas appear to be less burnt due to the high-density canopy, Clayey loam, Within Hills, on Upper slope, 1180m	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094607 (612868, 6047252)	14/5/22	Snowy Mountains	Low severity	Appear burnt/scorched, with canopy Not consumed., Sandy loam, Within Rise, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
WM094765 (611524, 6053488)	17/5/22	Snowy Mountains	High severity	Clayey loam, Within Hills, on Upper slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094A76 (607920, 6062185)	27/9/22	Bondo	High severity	Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094B2E (607947, 6062837)	21/9/22	Bondo	High severity	Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM094CAF (607996, 6063466)	27/9/22	Bondo	Moderate severity	Area regenerating well. Understorey is predominantly young wattles and eucalyptus trees. Blackberry seen throughout. Adjacent land is cleared. Other areas surrounding similarly burnt. Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094D70 (607945, 6063098)	27/9/22	Bondo	High severity	Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 314_Very low									
MA03247A (605161, 6076144)	20/9/22	Inland Slopes	High severity	Within Hills, on Lower slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

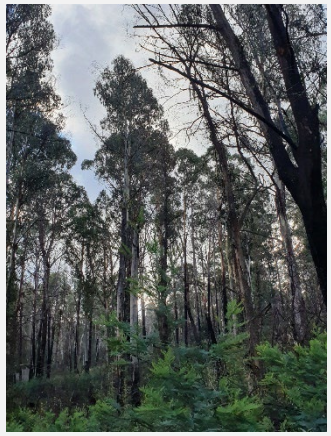
Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA0327F5 (605069, 6076110)	20/9/22	Inland Slopes	Moderate severity	Open grassland. No evidence of ash or burnt logs. Area was burnt nearly 2 years ago. Adjacent Surrounding canopy still shows evidence of fire. Area is very low condition class has a large number of exotic weeds present. Within Hills, on Mid slope, 620 m altitude.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
MA032E15 (604539, 6076547)	20/9/22	Inland Slopes	Extreme severity	Open grassland., Within Hills, on Mid slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 314_Moderate									
MA021853 (606972, 6072928)	2/3/22	Inland Slopes	High severity	Significant scorching to trees, resprouting, nil epicormic growth. Clay, Within Hills, on Upper slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA032543 (603648, 6076904)	20/9/22	Inland Slopes	High severity	Understorey relatively weedy. Majority of trees are completely scorched with no regeneration occurring. Adjacent property has more regeneration occurring. Areas adjacent are similarly burnt. Within Hills, on Lower slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable.	Severely Burnt
MA032875 (605000, 6076152)	20/9/22	Inland Slopes	High severity	Evidence of burn. Some trees completely scorched other regenerating. Some juvenile Eucalypts coming back. Within Hills, on Mid slope,	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed:	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 638_High									
WM09498C (608612, 6057928)	15/5/22	Snowy Mountains	High severity	Severely burnt, Clayey loam, Within Rise, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt
WM094F0B (608884, 6057127)	16/5/22	Snowy Mountains	Moderate severity	Surrounding areas appear similar to this PCT. Burnt marks on trees up to 10/15 meters. a few logs burnt, some epicormic growth. Canopy Not consumed or scorched., Clayey loam, Within Hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0949C2 (609020, 6056544)	16/5/22	Snowy Mountains	High severity	Severely burnt, Clayey loam, Within Hills, on Lower slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt
WM094A73 (608678, 6057491)	16/5/22	Snowy Mountains	Moderate severity	Burnt, canopy intact, Clayey loam, Within Rise, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094580 (609883, 6055426)	16/5/22	Snowy Mountains	Moderate severity	Burnt but not severely. Canopy intact, Clayey loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt 
WM094D85 (608999, 6056594)	21/9/22	Snowy Mountains	High severity	Surrounding area Severely burnt, canopy still very open. Clayey loam, Within Hills, on Lower slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 939_Very high									
WM094AED (611750, 6052758)	11/5/22	Snowy Mountains	High severity	Sandy loam, Within Plateau, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
Vegetation Zone: 953_High									

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM114052 (618476, 6038632)	28/9/22	Snowy Mountains	Moderate severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed:	Severely Burnt
MA013A30 (609583, 6069048)	13/5/22	Bondo	High severity	Canopy still quite bare. Within Hills, on Upper slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA013C50 (608798, 6066250)	15/5/22	Bondo	High severity	Severely Burnt, Clayey loam, Within Hills, on Ridgeline.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt
MA013EAD (609380, 6067963)	15/5/22	Bondo	Extreme severity	Clayey loam, Within Hills, on Ridgeline.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM013EB4 (609512, 6068327)	13/5/22	Bondo	Extreme severity	Clayey loam, Within Hills, on Upper slope, 1180m.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt
Vegetation Zone: 953_Very high									

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA0121AD (608571, 6065777)	15/5/22	Bondo	High severity	Severely Burnt, Clayey loam, Within Rise, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt
WM094E52 (612762, 6045862)	14/5/22	Snowy Mountains	Moderate severity	Canopy still largely intact. Not much evidence of fire, Sandy loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0942C1 (611737, 6053006)	17/5/22	Snowy Mountains	High severity	Canopy bare in many places. Clayey loam, within Hills, on Creek/river terrace	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt
WM1144BD (618182, 6038391)	21/9/22	Snowy Mountains	High severity	Canopy mostly consumed and mostly scorched. Logs and understorey affected, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt [No site photo available]

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					metre, New Leaf occurring: No				
Vegetation Zone: 0_Non-native									
WM05303 (573827, 6087316)	17/5/22	Inland Slopes	Unburnt	Surrounding area also pasture improved; Non-native pasture, Clay, No outcrops present in paddock; rock presumably removed, Within Low hills, on Lower slope, 300 AHD; W 258 degrees; slope less than 5 m	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05963A (579989, 6086882)	20/9/22	Inland Slopes	Low severity	Unburnt PCTs appear in good condition, some areas (30% of canopy) appear consumed. Clayey loam, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 9996_Non-native (Road)									
MA03327B (605130, 6076167)	20/9/22	Inland Slopes	High severity	MA-033 has areas of significant burnt patches. Fire occurred nearly 2 years ago. Area has started to regenerate well. Tops of canopies still scorched but trunks of trees are regenerating well. There are areas surrounding that have Not been	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
				burnt as significantly. Within Hills, on Lower slope.					

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 268_Low									
WM05307 (575292, 6087237)	17/5/22	Inland Slopes	Low severity	DNG, no canopy, Downslope gully woodland largely in burnt with minor trunk scorch. Clay, Siltstone or mudstone outcrops scattered, Within Hills, on Mid slope, 413 AHD; 15/20 degrees slope NE facing 29 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM05302 (575802, 6087155)	17/5/22	Inland Slopes	High severity	Good condition DNG low slope, no canopy. Much of the same condition; Clay, Siltstone and mudstone rocky outcrops, Within Hills, on Lower slope, 338 AHD; slope 5 degrees; NW 295 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05304 (574722, 6087206)	21/9/22	Inland Slopes	Low severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
Vegetation Zone: 268_High									
WM05305 (575059, 6087216)	21/9/22	Inland Slopes	High severity	Clayey loam, Within Hills, on Upper slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05306 (578383, 6087023)	17/5/22	Inland Slopes	High severity	Signs of trunk scorch evidence; Burnt white box, *E. blakelyi*. Opposite hillslope with easterly aspect shows little to no evidence of fire; Clay, Siltstone mudstone outcrops on surface, Within Hills, on Upper slope, 416 AHD; slope 20 degrees; W 274 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM05308 (574928, 6087100)	21/9/22	Inland Slopes	Moderate severity	Clayey loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM057E26 (577278, 6086952)	19/5/22	Inland Slopes	High severity	Lower slopes/ gully, 2-3 years post fire regeneration; Good condition regenerating, Clay, scattered rocky surface, Within Hills, on Lower slope, 560 AHD; 259 degrees W facing slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM05401 (575457, 6087117)	21/9/22	Inland Slopes	High severity	Low intensity fire, little scorching up trunks; Clayey loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0570CB (574632, 6087148)	20/9/22	Inland Slopes	Moderate severity	Clayey loam, within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
WM057513 (577170, 6086993)	20/9/22	Inland Slopes	High severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM057EEF (577352, 6087064)	20/9/22	Inland Slopes	Moderate severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
Vegetation Zone: 277_Very low									
WM05301 (574305, 6087296)	17/5/22	Inland Slopes	High severity	Grazed DNG fair condition mid slope; Adjacent PCT consistent in floristics and condition. Clay, No rocky outcrops, Within Hills, on Lower slope, 321 AHD; slope 5/10 degrees; NE 39 degrees	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 285_Low									
MA0141C2 (595976, 6080522)	21/9/22	Bondo	Extreme severity	Clayey loam, Within Low hills, on Creek/river terrace.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
MA014308 (596343, 6080402)	21/9/22	Bondo	High severity	No unburnt PCTs to be seen; Clayey loam, Within Low hills, on Depression.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt [No site photo available]

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA014B10 (596335, 6080445)	21/9/22	Bondo	High severity	No unburnt PCTs to be seen; Clayey loam, Within Low hills, on Depression.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
Vegetation Zone: 290_Low									
WM058C05 (578786, 6086820)	20/9/22	Inland Slopes	Unburnt	Unburnt PCTs appear to be in a moderate condition looking from here, Clayey loam, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable.	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 290_Moderate									
WM0576F4 (578531, 6087035)	19/5/22	Inland Slopes	Extreme severity	2–3 years post fire DNS; 290 Derived Native Shrubland due to immature canopy species from manual removal and fire; Surrounding PCTs appear denser in canopy foliage however the canopy in this area has been removed manually; Clay, Scattered rock surface of siltstone, Within Hills, on Mid slope, 629 AHD; 20 degrees slope; 269 W facing slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05927D (578849, 6087023)	2/6/22	Inland Slopes	Moderate severity	Surrounding trees with scorch marks, 20% canopy consumed, Clayey loam, Within Low hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 297_Low									

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05804F (580274, 6086801)	20/9/22	Inland Slopes	Moderate severity	Evidence of fire on adjacent Ridge line with canopy consumed in patches, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 297_Moderate									
WM058A55 (579505, 6086898)	20/9/22	Inland Slopes	High severity	Clayey loam, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0589EA (580118, 6086847)	20/9/22	Inland Slopes	Unburnt	Site within Hills, on Ridgeline. Evidence of fire on adjacent Ridge line with canopy consumed in patches.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 299_Very low									
MA0148EB (593666, 6081282)	21/9/22	Inland Slopes	High severity	No unburnt PCTs to be seen; Clayey loam, Within Low hills, on Creek/river terrace.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 299_Moderate									
WM06034721 (601603, 6078634)	21/9/22	Bondo	High severity	No unburnt PCTs seen from here, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt [No site photo available]
WM06034850 (601809, 6078649)	21/9/22	Bondo	High severity	No unburnt PCTs seen from here, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM06034DDA (601685, 6078646)	21/9/22	Bondo	High severity	No unburnt PCTs seen from here, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
WM0940C2 (607979, 6061008)	15/5/22	Bondo	Extreme severity	Severely burnt, Clayey loam, Within Rise, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 300_High									
WM0945E7 (611648, 6053235)	17/5/22	Snowy Mountains	High severity	From here adjacent areas appear to be less burnt due to the high-density canopy, Clayey loam, Within Hills, on Upper slope, 1180m	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094607 (612868, 6047252)	14/5/22	Snowy Mountains	Low severity	Appear burnt/scorched, with canopy Not consumed., Sandy loam, Within Rise, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt
WM094765 (611524, 6053488)	17/5/22	Snowy Mountains	High severity	Clayey loam, Within Hills, on Upper slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094A76 (607920, 6062185)	27/9/22	Bondo	High severity	Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094B2E (607947, 6062837)	21/9/22	Bondo	High severity	Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
WM094CAF (607996, 6063466)	27/9/22	Bondo	Moderate severity	Area regenerating well. Understorey is predominantly young wattles and eucalyptus trees. Blackberry seen throughout. Adjacent land is cleared. Other areas surrounding similarly burnt. Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094D70 (607945, 6063098)	27/9/22	Bondo	High severity	Within Hills, on Upper slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 314_Very low									
MA03247A (605161, 6076144)	20/9/22	Inland Slopes	High severity	Within Hills, on Lower slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

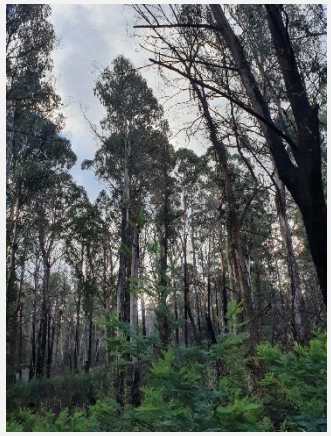
Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA0327F5 (605069, 6076110)	20/9/22	Inland Slopes	Moderate severity	Open grassland. No evidence of ash or burnt logs. Area was burnt nearly 2 years ago. Adjacent Surrounding canopy still shows evidence of fire. Area is very low condition class has a large number of exotic weeds present. Within Hills, on Mid slope, 620 m altitude.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
MA032E15 (604539, 6076547)	20/9/22	Inland Slopes	Extreme severity	Open grassland., Within Hills, on Mid slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 314_Moderate									
MA021853 (606972, 6072928)	2/3/22	Inland Slopes	High severity	Significant scorching to trees, resprouting, nil epicormic growth. Clay, Within Hills, on Upper slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA032543 (603648, 6076904)	20/9/22	Inland Slopes	High severity	Understorey relatively weedy. Majority of trees are completely scorched with no regeneration occurring. Adjacent property has more regeneration occurring. Areas adjacent are similarly burnt. Within Hills, on Lower slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable.	Severely Burnt
MA032875 (605000, 6076152)	20/9/22	Inland Slopes	High severity	Evidence of burn. Some trees completely scorched other regenerating. Some juvenile Eucalypts coming back. Within Hills, on Mid slope,	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed:	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 638_High									
WM09498C (608612, 6057928)	15/5/22	Snowy Mountains	High severity	Severely burnt, Clayey loam, Within Rise, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt
WM094F0B (608884, 6057127)	16/5/22	Snowy Mountains	Moderate severity	Surrounding areas appear similar to this PCT. Burnt marks on trees up to 10/15 meters. a few logs burnt, some epicormic growth. Canopy Not consumed or scorched., Clayey loam, Within Hills, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0949C2 (609020, 6056544)	16/5/22	Snowy Mountains	High severity	Severely burnt, Clayey loam, Within Hills, on Lower slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt
WM094A73 (608678, 6057491)	16/5/22	Snowy Mountains	Moderate severity	Burnt, canopy intact, Clayey loam, Within Rise, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM094580 (609883, 6055426)	16/5/22	Snowy Mountains	Moderate severity	Burnt but not severely. Canopy intact, Clayey loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt 
WM094D85 (608999, 6056594)	21/9/22	Snowy Mountains	High severity	Surrounding area Severely burnt, canopy still very open. Clayey loam, Within Hills, on Lower slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 939_Very high									
WM094AED (611750, 6052758)	11/5/22	Snowy Mountains	High severity	Sandy loam, Within Plateau, on Lower slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt [No site photo available]
Vegetation Zone: 953_High									

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM114052 (618476, 6038632)	28/9/22	Snowy Mountains	Moderate severity	Nil additional field observations Noted.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed:	Severely Burnt
MA013A30 (609583, 6069048)	13/5/22	Bondo	High severity	Canopy still quite bare. Within Hills, on Upper slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA013C50 (608798, 6066250)	15/5/22	Bondo	High severity	Severely Burnt, Clayey loam, Within Hills, on Ridgeline.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt
MA013EAD (609380, 6067963)	15/5/22	Bondo	Extreme severity	Clayey loam, Within Hills, on Ridgeline.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM013EB4 (609512, 6068327)	13/5/22	Bondo	Extreme severity	Clayey loam, Within Hills, on Upper slope, 1180m.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt
Vegetation Zone: 953_Very high									

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA0121AD (608571, 6065777)	15/5/22	Bondo	High severity	Severely Burnt, Clayey loam, Within Rise, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Severely Burnt
WM094E52 (612762, 6045862)	14/5/22	Snowy Mountains	Moderate severity	Canopy still largely intact. Not much evidence of fire, Sandy loam, Within Hills, on Mid slope	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Complete	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM0942C1 (611737, 6053006)	17/5/22	Snowy Mountains	High severity	Canopy bare in many places. Clayey loam, within Hills, on Creek/river terrace	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt
WM1144BD (618182, 6038391)	21/9/22	Snowy Mountains	High severity	Canopy mostly consumed and mostly scorched. Logs and understorey affected, Clayey loam, Within Low hills, on Lower slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt [No site photo available]

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					metre, New Leaf occurring: No				
Vegetation Zone: 0_Non-native									
WM05303 (573827, 6087316)	17/5/22	Inland Slopes	Unburnt	Surrounding area also pasture improved; Non-native pasture, Clay, No outcrops present in paddock; rock presumably removed, Within Low hills, on Lower slope, 300 AHD; W 258 degrees; slope less than 5 m	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Easting, Northing: MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM05963A (579989, 6086882)	20/9/22	Inland Slopes	Low severity	Unburnt PCTs appear in good condition, some areas (30% of canopy) appear consumed. Clayey loam, Within Hills, on Ridgeline	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: No	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Not Severely Burnt
Vegetation Zone: 9996_Non-native (Road)									
MA03327B (605130, 6076167)	20/9/22	Inland Slopes	High severity	MA-033 has areas of significant burnt patches. Fire occurred nearly 2 years ago. Area has started to regenerate well. Tops of canopies still scorched but trunks of trees are regenerating well. There are areas surrounding that have Not been	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, HBT plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID **(Easting, Northing: MGA 1994 GDA 55)**	**Date of Survey**	**IBRA Subregion**	**FESM* Category**	**Additional Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
				burnt as significantly. Within Hills, on Lower slope.					

Table A4- 2: Severely burnt vegetation zones and assessment against the DPIE (2020e) Guideline – ELA October 2020-Februrary 2021

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
Vegetation Zone: 1196_High									
WM094553 (612776, 6048388)	October 2020 – February 2021	Snowy Mountains	High severity	Full crown impact, mostly scorch, but all burnt leaves gone now, Clayey loam, Within Plateau, on Upper slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Complete	Severely Burnt
WM094952 (612589, 6050120)	October 2020 – February 2021	Snowy Mountains	High severity	Full canopy impacted, mostly scorch; No adjacent PCTs unburnt, Clayey loam, Within Plateau, on Upper slope, South West aspect.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
								completed: Not applicable	
Vegetation Zone: 1224_Moderate									
MA001762 (616230, 6041314)	October 2020 – February 2021	Snowy Mountains	Low severity	Very patchy grassland burn, very wet, boggy.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
MA0018FD (616144, 6041395)	October 2020 – February 2021	Snowy Mountains	Unburnt	Very occasional small patches of burnt grass.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth:	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					< 1 metre, New Leaf occurring: No			completed: Not applicable	
Vegetation Zone: 268_High									
WM05701A (577092, 6087080)	October 2020 – February 2021	Inland Slopes	Moderate severity	Groundcover regenerated but regen very weedy, Clayey loam, Within Hills, on Lower slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: Yes, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
WM057063 (577851, 6086966)	October 2020 – February 2021	Inland Slopes	Extreme severity	Completely torched but good regen Now; Across the valley the veg is unburnt however we don't have access and it is a long way away; Good native regen, Sandy	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth:	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No,	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
				loam, Within Hills, on Upper slope.	< 1 metre, New Leaf occurring: No			Hollow Bearing tree plot completed: Not applicable	
Vegetation Zone: 290_High									
WM057DC2 (578611, 6086884)	October 2020 – February 2021	Inland Slopes	Moderate severity	Sandy loam, Within Hills, on Upper slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
Vegetation Zone: 297_Moderate									
WM058CFE (579160, 6086802)	October 2020 – February 2021	Inland Slopes	Moderate severity	Good regen; Sandy loam, Within Hills, on Upper slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes,	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					Length of epicormic growth: < 1 metre, New Leaf occurring: Yes			organic matter present: No, Hollow Bearing tree plot completed:	
WM058D02 (578921, 6086737)	October 2020 – February 2021	Bondo	Low severity	GEEBAM mapping correct however enough regen to do plot; Canopy sp were able to be identified, considerable native regeneration in groundcover; Nil; Clayey sand, Granite rocky outcrops common, Within Hills, on Upper slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
Vegetation Zone: 300_High									
WM09492A (608020, 6062877)	October 2020 – February 2021	Bondo	High severity	Clayey loam, Within Hills, on Upper slope, 1000m, east facing slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes,	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					Length of epicormic growth: > 1 metre, New Leaf occurring: Yes			organic matter present: No, Hollow Bearing tree plot completed: Not applicable	
WM0949AD (611305, 6053689)	October 2020 – February 2021	Snowy Mountains	High severity	Moderately burned; Many sp. Identifiable. Moderate regrowth; Clayey loam	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
Vegetation Zone: 638_High									
WM094305 (608859, 6057102)	October 2020 – February 2021	Snowy Mountains	Low severity	Clayey loam, Within Hills, on Mid slope, 1150m. NE. Low-med gradient.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No,	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					Length of epicormic growth: > 1 metre, New Leaf occurring: Yes			organic matter present: No, Hollow Bearing tree plot completed: Not applicable	
WM09431A (609035, 6056608)	October 2020 – February 2021	Snowy Mountains	High severity	Some canopy dead, some still alive; On edge of selective logging area, Clayey loam, Within Hills, on Mid slope, 1180m. West. Low -med gradient	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
WM09474C (608680, 6057556)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Mid story completely burnt, canopy partially burnt, Clayey loam, Within Hills, on Mid slope, 1140m, medium gradient. Approx	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth:	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No,	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
				30m from flowing drainage line.	> 1 metre, New Leaf occurring: Yes			Hollow Bearing tree plot completed: Not applicable	
WM094A87 (609117, 6056547)	October 2020 – February 2021	Snowy Mountains	High severity	Clayey loam, Within Hills, 1180m AHD. 125 deg. Low gradient slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
WM094CE7 (608627, 6057890)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Clayey loam, Granite outcropping, Within Hills, on Upper slope, 1150m east moderate slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth:	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					> 1 metre, New Leaf occurring: Yes			completed: Complete	
WM094DE8 (609023, 6056506)	October 2020 – February 2021	Snowy Mountains	High severity	Low condition, Canopy spp. and adj better one veg, Clayey loam, Within Hills, on Upper slope, 1180m.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Complete	Severely Burnt
WM094E39 (610108, 6055290)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Low intensity burn. Canopy Not burnt; mid storey burnt	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
								completed: Not applicable	
WM094F62 (609817, 6055430)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Clayey loam, Within Hills, on Mid slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
Vegetation Zone: 679_High									
MA0060C5 (614241, 6043832)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Partial crown scorch, Within Plateau, creek line, 1140m AHD	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth:	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					< 1 metre, New Leaf occurring: No			tree plot completed:	
WM114F42 (617775, 6039171)	October 2020 – February 2021	Snowy Mountains	High severity	Majority of canopy impacted, mostly scorch. Within Plateau, on Creek/terrace, Creek line running south	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed: Complete	Severely Burnt
Vegetation Zone: 953_High									
MA01191D (608887, 6066154)	October 2020 – February 2021	Bondo	High severity	All surrounding areas burnt, Clayey loam, Within Hills, on Upper slope, at top of steep east facing slope. Approx 1000m AHD	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth:	Understorey plants consumed: No, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot	Not Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					> 1 metre, New Leaf occurring: No			completed: Complete	
MA0131BB (609040, 6067117)	October 2020 – February 2021	Bondo	Extreme severity	Full canopy impact, mixture of scorch and full leaf consumption, trees starting to resprout, ground layer recovering, few shrub species present; Canopy species identified by resprouting leaves and fruits, ground layer species match PCT description, landscapes position; Sandy loam. Within Plateau, on Ridgeline, West facing	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
MA0132F3 (609620, 6068443)	October 2020 – February 2021	Bondo	Extreme severity	Canopy fully consumed; all surrounding PCTs burnt within vicinity, Loam, Within Plateau, on Ridgeline, 855m	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes,	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
				AHD, Southwest facing, moderate slope	consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No		scorch evident: Yes	Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	
MA013401 (609445, 6068723)	October 2020 – February 2021	Bondo	Extreme severity	High severity burn, canopy and smaller branchlets of trees consumed; Tree and understorey species present and landscape position; None, all burnt in vicinity; Tree and understorey species present and landscape position, Loam, Within Plateau, on Upper slope, North, 810m AHD, moderate to steep slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Complete	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
MA013593 (609709, 6069025)	October 2020 – February 2021	Bondo	Moderate severity	Full canopy consumption or scorch, trees resprouting, abundant new ground layer growth, mostly bracken, grasses and forbs; canopy species and ground species match PCT; Loam, Within Plateau, on Ridgeline, 830m, W, gentle slope	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
MA0135EB (609017, 6066694)	October 2020 – February 2021	Bondo	Extreme severity	Full canopy impact, all shrubs completely burnt, most Eucalypts recovering, ground layer recovering; Canopy and ground species match PCT, also landscape position; Sandy loam, Within Plateau, on Ridgeline, North-	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
				west, moderate slope					
Vegetation Zone: 953_Very high									
WM094156 (612725, 6045784)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Partial canopy scorch, Within Plateau, on Creek/terrace, Creek line	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Complete	Severely Burnt
WM0941FB (612391, 6051402)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Clayey sand, Within Hills, on Mid slope, 1100 m.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth:	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
					> 1 metre, New Leaf occurring: Yes			completed: Not applicable	
WM09433D (612454, 6051409)	October 2020 – February 2021	Snowy Mountains	High severity	Partially burnt canopy; Clayey sand, Within Hills, on Mid slope, 1085 m, south facing upper open drainage line.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Complete	Severely Burnt
WM094482 (610457, 6054827)	October 2020 – February 2021	Snowy Mountains	Low severity	Nil additional field observations	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
								completed: Not applicable	
WM0946B1 (611935, 6052529)	October 2020 – February 2021	Snowy Mountains	High severity	Clayey loam, Within Hills, on Lower slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: Yes, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
WM094C50 (611629, 6053147)	October 2020 – February 2021	Snowy Mountains	High severity	Canopy mostly burned. good ground regrowth. No weeds. good regen; 953 moderate - good. No weeds. good regen, Clayey loam, Within Hills, on Mid slope.	Trees Species Richness unidentified: No, Dominant tree species unidentified: No, Canopy trees consumed: No, Length of epicormic growth: > 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: No, Groundcover regrowth present: No, Ground scorch evident: No	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: No, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
								completed: Not applicable	
WM094E86 (612953, 6046747)	October 2020 – February 2021	Snowy Mountains	Moderate severity	90% canopy impact - mostly scorch. Sandy loam, within Plateau, on Swamp, 1160m, east, nearly flat.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: No, Canopy trees consumed: Yes, Length of epicormic growth: > 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: Yes	Groundcover plants consumed: Yes, Groundcover regrowth present: No, Ground scorch evident: Yes	Logs consumed: No, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
WM1140F0 (617187, 6040022)	October 2020 – February 2021	Snowy Mountains	Moderate severity	Burnt under storey No canopy scorch or consumption. Clay, Within Low hills, on Lower slope, flat, 280 aspects.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
								completed: Not applicable	
WM11414C (618092, 6039074)	October 2020 – February 2021	Snowy Mountains	High severity	Tallest canopy unburnt, Clayey loam, Within Rise, on Mid slope,	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed:	Severely Burnt
WM1146A4 (618661, 6038641)	October 2020 – February 2021	Snowy Mountains	High severity	Full scorch and possibly consumption. Ground very sparse. Granite with clayey loam, Within Low hills, on Mid slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed: Not applicable	Severely Burnt

Survey details				DPIE 2020e guideline criteria					Survey results
Burnt Assessment ID (Coordinates MGA 1994 GDA 55)	**Date of Survey**	**IBRA Subregion**	**FESM Category**	**Field Observations - Adjacent Vegetation Burn Status, Topography and Soil/ Geology**	**Tree/ Canopy Guideline Criteria**	**Understorey Guideline Criteria**	**Ground Cover Guideline Criteria**	**Habitat guideline criteria**	
WM114F96 (618212, 6038243)	October 2020 – February 2021	Snowy Mountains	Moderate	Burnt trees and logs. Granites. Within Hills, on Upper slope.	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: Yes, Length of epicormic growth: < 1 metre, New Leaf occurring: No	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: Yes, Soil organic layer consumed: Yes, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed: Not applicable	Severely Burnt
WM117488 (618217, 6038256)	October 2020 – February 2021	Snowy Mountains	Low severity	Patchy, low burn. Canopy intact. Doesn't look like a class 4 burn, more like class 2. Clay, Within Low hills, on Plains	Trees Species Richness unidentified: Yes, Dominant tree species unidentified: Yes, Canopy trees consumed: No, Length of epicormic growth: < 1 metre, New Leaf occurring: Yes	Understorey plants consumed: Yes, Understorey regrowth present: No	Groundcover plants consumed: Yes, Groundcover regrowth present: Yes, Ground scorch evident: No	Logs consumed: Yes, Pre-fire surface litter (if expected) is consumed: No, Soil organic layer consumed: No, Ash and charred organic matter present: Yes, Hollow Bearing tree plot completed:	Not Severely Burnt

MGA: Map Grid of Australia; GDA: Geodetic Datum; AHD: Australian Height Datum; DNG: Derived Native Grassland; HBT: Hollow-bearing tree

Attachment 5. Floristic plot data

This Attachment presents the floristic plot data for each Biodiversity Assessment Method (BAM) plot as entered into the BAM Calculator (BAM-C). This is presented separately for each IBRA subregion in Table A5- 1 to Table A5- 22. Plot codes referenced at the top of each table are documented in Attachment 10 in relation to each PCT and in Attachment 6 in relation to each vegetation zone. Cover (C) and abundance (A) scores are provided for plant species where they occurred within each BAM plot.

Table A5- 1: Bungonia BAM floristic data

Scientific name	Common name	BY00101F13		BY001BD2		BY001CE9		BY001CF1		BY001F8E		BY005-A		BY005-B		BY006-A		BY006-B		BY006-C		BY006-D		BY008-01-A		BY008-A		BY008-B		BY008-C		BY008-D	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																																
Acacia genistifolia	Early Wattle																																
Acacia implexa	Hickory Wattle																			0.1	1												
Acacia mearnsii	Black Wattle																			5	1												
Acacia parramattensis	Parramatta Wattle			0.6	1																							20	1				
Acacia sp.	Wattle																																
Acacia terminalis	Sunshine Wattle																																
Acaena ovina	Acaena			0.1	1																												
Adiantum aethiopicum	Common Maidenhair																																
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass																																
Amaranthus retroflexus	Redroot Amaranth	0.5	1			0.2	1	0.5	1																								
Amyema sp.	Mistletoe																																
Anisopogon avenaceus	Oat Speargrass																																
Anthoxanthum odoratum	Sweet Vernal Grass																							1	1			15	1				
Arctotheca calendula	Capeweed	0.1	1					0.1	1															0.1	1								
Aristida ramosa	Purple Wiregrass																																

Scientific name	Common name	BY00101F13		BY001BD2		BY001CE9		BY001CF1		BY001F8E		BY005-A		BY005-B		BY006-A		BY006-B		BY006-C		BY006-D		BY008-01-A		BY008-A		BY008-B		BY008-C		BY008-D	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Aristida vagans	Threeawn Speargrass																			0.1	1									0.5	1	0.1	1
Arrhenatherum elatius	Oatgrass					0.1	1			5	1																						
Arthropodium milleflorum	Pale Vanilla-lily																																
Asperula conferta	Common Woodruff			0.1	1					0.1	1																						
Asplenium flabellifolium	Necklace Fern																																
Austrostipa bigeniculata	Yanganbil			0.5	1																											1	1
Austrostipa scabra	Speargrass	0.1	1	0.5	1									5	1							5	1							0.2	1		
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Bauera microphylla	-																																
Bidens pilosa	Cobbler's Pegs					0.5	1	0.1	1			0.1	1																				
Billardiera scandens	Hairy Apple Berry																											0.1	1				
Bossiaea buxifolia	-																																
Bothriochloa macra	Red Grass			0.5	1	0.5	1			1	1			3	1	10	1					2	1	1	1							0.1	1
Brachyloma daphnoides	Daphne Heath																																
Brachyscome aculeata	Hill Daisy																																
Briza minor	Shivery Grass																			0.1	1												
Bromus cartharticus	Prairie Grass			0.5	1			1	1			5	1			0.1	1	5	1			2	1										
Bromus catharticus	Praire Grass	1	1																					1	1								
Bromus hordeaceus	Soft Brome																																
Bursaria spinosa	Native Blackthorn																																
Bursaria spinosa subsp. *spinosa*	Native Blackthorn																																
Calotis lappulacea	Yellow Burr-daisy													0.1	1															0.1	1		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Carduus nutans	Nodding Thistle															0.1	1					3	1	0.1	1			0.1	1				
Carduus pycnocephalus	Slender Thistle			0.1	1																												
Carex appressa	Tall Sedge																																
Carex inversa	Knob Sedge																																
Carthamus lanatus	Saffron Thistle	0.1	1			0.1	1					1	1	25	1	2	1					0.1	1										
Cassinia aculeata	Dolly Bush																											5	1				
Cassinia arcuata	Sifton Bush																			0.2	1									15	1	0.1	1
Cassinia laevis	Cough Bush																																
Cassinia longifolia	-																																
Cassinia quinquefaria	-			0.1	1																												
Cassinia sp.	-																																
Centaurium erythraea	Common Centaury																							0.1	1							0.1	1
Centaurium tenuiflorum	Branched Centaury, Slender centaury																																
Chamaesyce dallachyana	-			0.1	1																												
Cheilanthes sieberi	Rock Fern															0.1	1			0.1	1												
Chenopodium album	Fat Hen	0.1	1					0.1	1																								
Chloris truncata	Windmill Grass					0.5	1			0.5	1	0.1	1	0.1	1											10	1						
Chloris ventricosa	Tall Chloris															0.1	1																
Chondrilla juncea	Skeleton Weed													0.5	1	15	1					2	1										
Chrysocephalum apiculatum	Common Everlasting																			10	1												
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle			0.1	1					0.2	1					0.5	1	0.1	1	0.1	1	0.1	1	3	1	0.2	1	0.1	1				
Clematis aristata	Old Man's Beard																																
Convolvulus erubescens	Pink Bindweed															0.1	1																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Conyza bonariensis	Flaxleaf Fleabane	0.2	1	2	1	0.5	1	0.5	1	0.5	1	0.1	1	0.2	1	1	1	0.1	1	1	1	0.1	1	10	1	1	1						
Crataegus monogyna	Hawthorn																											1	1				
Cymbonotus lawsonianus	Bear's Ear																																
Cynodon dactylon	Common Couch	1	1			5	1	5	1																								
Cynosurus echinatus	Rough Dog's Tail																																
Cyperus eragrostis	Umbrella Sedge			0.1	1	0.1	1	0.1	1																								
Cyperus sanguinolentus	-									0.1	1																						
Cyperus sp.	-																	0.2	1	0.1	1	0.1	1	0.1	1					0.1	1		
Dactylis glomerata	Cocksfoot			35	1	2	1	0.1	1	50	1	20	1							0.2	1			10	1			10	1			0.1	1
Dampiera purpurea	-																																
Datura stramonium	Common Thornapple	0.3	1					0.5	1																								
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil			0.1	1																							0.1	1				
Dianella caerulea	Blue Flax-lily																																
Dichelachne micrantha	Shorthair Plumegrass																			0.2	1									0.1	1	0.3	1
Dichelachne rara	-																																
Dichondra repens	Kidney Weed			0.1	1											0.2	1											0.1	1	5	1		
Digitaria ischaemum	-	25	1	1	1	20	1	35	1																								
Digitaria ramularis	Finger Panic Grass			5	1	1	1			10	1																						
Digitaria sanguinalis	Crab Grass					35	1			1	1																						
Digitaria sp.	A Finger Grass															0.1	1	3	1			0.1	1	1	1			5	1			0.1	1
Dipodium roseum	-																																
Dysphania pumilio	Small Crumbweed																									5	1	0.1	1	0.1	1		
Dysphania sp.	-	0.1	1					0.1	1																								

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Echinochloa crus-galli	Barnyard Grass	0.5	1	0.5	1			0.5	1	1	1																						
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon ovatus	Forest Hedgehog Grass			0.5	1																												
Echium italicum	Italian Bugloss																																
Echium plantagineum	Patterson's Curse																																
Ehrharta erecta	Panic Veldtgrass					0.5	1																										
Einadia hastata	Berry Saltbush																																
Einadia nutans	Climbing Saltbush																																
Eleusine tristachya	Goose Grass	1	1	1	1	0.5	1	1	1	1	1	1	1	1	1	0.1	1	0.2	1							0.1	1						
Elymus scaber	Common Wheatgrass			0.1	1									0.1	1																		
Enneapogon avenaceus	Bottle Washers																																
Entolasia stricta	Wiry Panic																																
Eragrostis brownii	Brown's Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass	0.1	1	0.5	1	0.1	1			1	1			0.1	1			1	1													0.1	1
Eragrostis sp.	A Lovegrass																													0.1	1		
Eragrostis trachycarpa	A Lovegrass									0.5	1									0.2	1												
Erodium cicutarium	Common Crowfoot	0.1	1																														
Erodium crinitum	Blue Crowfoot							0.2	1																								
Eucalyptus amplifolia	Cabbage Gum																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus blakelyi	Blakely's Red Gum			0.1	1					5	1																	2	1				
Eucalyptus bridgesiana	Apple Box			5	1			3	1																								
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus eugenioides	Thin-leaved Stringybark																											20	1				
Eucalyptus globoidea	White Stringybark																																
Eucalyptus macrorhyncha	Red Stringybark			0.1	1					1	1																						
Eucalyptus mannifera	Brittle Gum																																
Eucalyptus melliodora	Yellow Box																																
Eucalyptus punctata	Grey Gum																																
Eucalyptus radiata	Narrow-leaved Peppermint																																
Eucalyptus sieberi	Silvertop Ash																																
Eucalyptus viminalis	Ribbon Gum																			20	1												
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed			0.1	1															0.1	1			0.1	1			0.1	1	0.1	1	0.1	1
Exocarpos cupressiformis	Cherry Ballart																																
Galium propinquum	Maori Bedstraw																																
Galium sp.	-																											0.1	1				
Gamochaeta americana	Cudweed																																
Geranium potentilloides	-			0.1	1			0.1	1																								
Geranium solanderi	Native Geranium									0.2	1					10	1	0.1	1														
Geranium sp. *2*	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Glycine clandestina	Twining glycine																											0.1	1				
Glycine tabacina	Variable Glycine															0.1	1													0.1	1		
Gnaphalium americanum	Cundweed																																
Gonocarpus tetragynus	Poverty Raspwort			0.1	1																												
Goodenia hederacea	Ivy Goodenia																																
Haloragis heterophylla	Variable Raspwort									0.5	1																						
Hardenbergia violacea	False Sarsaparilla																																
Hibbertia obtusifolia	Hoary Guinea Flower																													0.1	1		
Hirschfeldia incana	Buchan Weed	0.1	1			0.2	1																										
Holcus lanatus	Yorkshire Fog																	0.1	1	0.1	1											0.1	1
Hordeum leporinum	Barley Grass	0.5	1					0.2	1																								
Hordeum vulgare	Barley																																
Hovea lanceolata	-																																
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort															1	1											0.1	1	0.1	1		
Hypericum gramineum	Small St John's Wort																																
Hypochaeris radicata	Catsear			0.1	1	0.1	1	0.3	1	0.2	1	0.1	1			10	1			2	1	0.1	1	0.2	1	0.5	1	1	1	0.5	1	0.1	1
Isolepis gaudichaudiana	Benambra Club-sedge									0.1	1																						
Juncus australis	Rush																															0.1	1
Juncus bufonius	Toad Rush									0.1	1																						
Juncus filicaulis	-									0.2	1																					0.1	1
Juncus sp.	A Rush																	3	1	0.1	1					0.1	1						
Juncus usitatus	-																																
Lactuca serriola	Prickly Lettuce			0.1	1																												
Lagenifera stipitata	Blue Bottle-daisy																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lagenophora sp.	-																																
Laxmannia gracilis	Slender Wire Lily																																
Lepidium africanum	Common Peppercress	0.1	1			0.1	1	0.1	1			0.1	1			0.1	1	0.1	1							0.1	1			0.1	1		
Lepidosperma laterale	Variable Sword-sedge																																
Lepyrodia scariosa	-																																
Lissanthe strigosa	Peach Heath			0.1	1					0.1	1																			0.2	1	0.1	1
Lissanthe strigosa subsp. *subulata*	Peach Heath																	0.1	1									0.5	1				
Lolium perenne	Perennial Ryegrass							0.1	1	0.5	1	20	1																				
Lomandra filiformis	Wattle Matt-rush																																
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush			0.1	1																												
Lomandra glauca	Pale Mat-rush																													0.1	1		
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																																
Lomatia myricoides	River Lomatia																																
Luzula densiflora	Woodrush																																
Lysimachia arvensis	Scarlet Pimpernel																											0.1	1	0.1	1		
Lythrum hyssopifolia	Hyssop Loosestrife							0.1	1																								
Malva neglecta	Dwarf Mallow	0.5	1					0.5	1																								
Malva parviflora	Small-flowered Mallow											1	1	0.1	1	0.2	1	0.1	1			0.2	1			1	1						
Marrubium vulgare	White Horehound			0.1	1																												
Melichrus urceolatus	Urn Heath																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Microlaena stipoides	Weeping Grass															0.2	1	50	1	10	1	70	1					2	1	1	1	70	1
Microlaena stipoides var. *stipoides*	Weeping Grass	0.5	1	1	1	5	1	0.5	1	0.5	1																						
Microtis sp.	-																																
Modiola caroliniana	Red-flowered Mallow	0.5	1	1	1	0.5	1																										
Nassella neesiana	Chilean Needle Grass																																
Nassella trichotoma	Serrated Tussock	0.5	1	0.5	1	1	1			0.5	1			0.1	1					0.1	1	0.1	1	0.2	1								
Olearia microphylla	-																																
Olearia sp.	-																																
Olearia viscidula	Wallaby Weed																																
Onopordum acanthium	Scotch Thistle	0.1	1			0.1	1	0.1	1			5	1																				
Opercularia diphylla	Stinkweed																																
Oreomyrrhis eriopoda	Australian Carraway																																
Oxalis corniculata	Creeping Oxalis																																
Oxalis perennans	-	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1																	1	1				
Oxalis sp.	-											0.1	1	0.3	1	15	1	0.2	1			2	1	1	1	5	1			0.1	1	0.1	1
Ozothamnus sp.	-																																
Panicum effusum	Hairy Panic			0.5	1															0.1	1			0.1	1	0.1	1						
Panicum gilvum	-	1	1					5	1																								
Panicum simile	Two-colour Panic																																
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow	0.1	1							0.1	1																						
Paspalum dilatatum	Paspalum			0.2	1			0.5	1	1	1	0.2	1			0.1	1	5	1			0.2	1			1	1						
Persoonia linearis	Narrow-leaved Geebung																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink													0.1	1	0.1	1			0.1	1									0.1	1		
Phalaris aquatica	Phalaris					10	1			1	1	20	1											20	1							0.1	1
Phytolacca octandra	Inkweed																			0.2	1							1	1	20	1		
Pittosporum spinescens	Wallaby Apple																																
Plantago debilis	Shade Plantain																																
Plantago lanceolata	Lamb's Tongues	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1					0.1	1	0.5	1			0.2	1	0.1	1			1	1	0.2	1		
Plantago varia	-																																
Poa sieberiana	Snowgrass															0.5	1	0.1	1									0.1	1	0.2	1		
Podolobium ilicifolium	Prickly Shaggy Pea																																
Polygonum aviculare	Wireweed							0.1	1			0.1	1	0.1	1																		
Polygonum sp.	-	0.2	1			0.1	1			0.1	1																						
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera																													0.1	1		
Portulaca oleracea	Pigweed	0.1	1			0.1	1	0.1	1					0.1	1																		
Prunella vulgaris	Self-heal																																
Pseudognaphalium luteoalbum	Jersey Cudweed																									2	1						
Pteridium esculentum	Bracken																																
Pterostylis sp.	Greenhood																																
Rhytidosporum procumbens	-																																
Rosa rubiginosa	Sweet Briar			0.1	1					0.1	1					0.1	1											0.1	1				
Rubus anglocandicans	Blackberry															1	1																
Rubus fruticosus sp. *agg.*	Blackberry complex	0.1	1															0.1	1									1	1				
Rumex acetosella	Sheep Sorrel	0.1	1	0.2	1	0.1	1	0.5	1	0.1	1					10	1	4	1					10	1			1	1	15	1	1	1
Rumex brownii	Swamp Dock	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1			0.2	1			2	1			1	1			0.2	1						
Rumex conglomeratus	Clustered Dock																	0.1	1														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rumex crispus	Curled Dock																																
Rumex obtusifolius	Broadleaf Dock																																
Rumex sp.	Dock															0.1	1																
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass																																
Rytidosperma racemosum	Wallaby Grass																																
Rytidosperma sp.	-	0.1	1	0.5	1					0.5	1			0.1	1					10	1							2	1	0.2	1	2	1
Schoenus apogon	Fluke Bogrush																															1	1
Senecio linearifolius	Fireweed Groundsel			0.1	1																												
Senecio madagascariensis	Fireweed	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1					0.1	1																
Senecio microbasis	-																																
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed																											0.1	1				
Senecio sp.	Groundsel, Fireweed																																
Senecio tenuiflorus	A fireweed																																
Senecio vulgaris	-																									0.1	1						
Setaria parviflora	-																							1	1								
Setaria pumila	Pale Pigeon Grass																									20	1					0.1	1
Silybum marianum	Variegated Thistle																																
Sisymbrium officinale	Hedge Mustard											0.1	1																				

Scientific name	Common name	BY00101F13		BY001BD2		BY001CE9		BY001CF1		BY001F8E		BY005-A		BY005-B		BY006-A		BY006-B		BY006-C		BY006-D		BY008-01-A		BY008-A		BY008-B		BY008-C		BY008-D	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Solanum chenopodioides	Whitetip Nightshade			1	1	0.5	1	0.1	1	0.1	1																						
Solanum cinereum	Narrawa Burr																											0.1	1				
Solanum linearifolium	Mountain Kangaroo Apple																																
Solanum nigrum	Black-berry Nightshade	0.1	1			0.1	1			0.1	1					0.1	1			2	1	5	1					5	1	0.1	1		
Solanum prinophyllum	Forest Nightshade																																
Solanum radicans	Cusmayllo	5	1	1	1			2	1																								
Solanum sp.	-																											1	1				
Sonchus asper	Prickly Sowthistle																																
Sonchus oleraceus	Common Sowthistle	0.1	1	0.1	1			0.1	1	0.1	1	0.1	1			0.1	1	0.1	1	0.1	1	0.1	1	1	1	0.5	1	1	1				
Sorghum leiocladum	Wild Sorghum																	1	1														
Sporobolus creber	Slender Rat's Tail Grass			0.1	1	0.5	1							0.1	1	0.5	1	1	1	2	1			0.1	1								
Stellaria media	Common Chickweed	0.2	1					0.1	1																								
Stellaria pungens	Prickly Starwort																																
Stylidium lineare	Narrow-leaved Triggerplant																																
Stypandra glauca	Nodding Blue Lily																													0.1	1		
Styphelia sp.	-																																
Tagetes minuta	Stinking Roger	0.1	1			1	1	0.1	1			0.2	1																				
Taraxacum officinale	Dandelion															0.2	1											0.4	1				
Themeda triandra	Kangaroo Grass															10	1	0.1	1	2	1							0.1	1				
Tolpis barbata	Yellow Hawkweed																			0.2	1												

Scientific name	Common name	BY00101F13		BY001BD2		BY001CE9		BY001CF1		BY001F8E		BY005-A		BY005-B		BY006-A		BY006-B		BY006-C		BY006-D		BY008-01-A		BY008-A		BY008-B		BY008-C		BY008-D	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Tricoryne elatior	Yellow Autumn-lily																	0.2	1	5	1												
Trifolium arvense	Haresfoot Clover																															0.2	1
Trifolium dubium	Yellow Suckling Clover									0.1	1																						
Trifolium glomeratum	Clustered Clover	0.1	1					0.1	1																								
Trifolium repens	White Clover	2	1			1	1	1	1	1	1	0.2	1	5	1	0.5	1	5	1														
Trifolium subterraneum	Subterranean Clover			1	1									0.2	1	2	1			0.1	1					5	1					0.2	1
Verbascum thapsus	Aarons Rod			0.1	1											0.4	1	0.2	1					0.1	1	0.5	1			2	1		
Verbascum virgatum	Twiggy Mullein																																
Verbena bonariensis	Purpletop																			0.1	1			1	1	1	1						
Veronica plebeia	Trailing Speedwell																													0.2	1		
Viola betonicifolia	Native Violet																																
Viola hederacea	Ivy-leaved Violet																																
Vittadinia cuneata	A Fuzzweed																											0.1	1				
Vittadinia muelleri	A Fuzzweed																			0.1	1												
Vulpia myuros	Rat's Tail Fescue															0.1	1			0.2	1			1	1							1	1
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																																
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell			0.1	1											0.1	1			0.1	1							0.1	1				
Xanthium ambrosioides	-																									0.1	1						
Xanthium occidentale	Noogoora Burr	0.1	1			0.1	1	0.2	1																								
Xerochrysum bracteatum	Golden Everlasting																																

Table A5- 2: Bungonia BAM floristic data

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																																
Acacia genistifolia	Early Wattle																																
Acacia implexa	Hickory Wattle																																
Acacia mearnsii	Black Wattle																							0.5	1			5	1	0.1	1	0.1	1
Acacia parramattensis	Parramatta Wattle									0.1	1																						
Acacia sp.	Wattle											0.1	1	0.5	1							1	1			0.1	1						
Acacia terminalis	Sunshine Wattle													0.2	1																		
Acaena ovina	Acaena									0.1	1									0.1	1			0.1	1			0.1	1				
Adiantum aethiopicum	Common Maidenhair											0.1	1																				
Aira caryophyllea	Silvery Hairgrass																					0.1	1										
Aira cupaniana	Silvery Hairgrass																					0.1	1										
Amaranthus retroflexus	Redroot Amaranth																																
Amyema sp.	Mistletoe											0.2	1																				
Anisopogon avenaceus	Oat Speargrass									0.5	1	0.5	1																				
Anthoxanthum odoratum	Sweet Vernal Grass			0.1	1							0.5	1																				
Arctotheca calendula	Capeweed																																
Aristida ramosa	Purple Wiregrass	2	1																														
Aristida vagans	Threeawn Speargrass	2	1			0.1	1																										
Arrhenatherum elatius	Oatgrass																																
Arthropodium milleflorum	Pale Vanilla-lily											0.1	1																				
Asperula conferta	Common Woodruff																	0.1	1			0.1	1										

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Asplenium flabellifolium	Necklace Fern																									0.1	1						
Austrostipa bigeniculata	Yanganbil									0.2	1													0.1	1								
Austrostipa scabra	Speargrass							0.1	1																								
Axonopus fissifolius	Narrow-leafed Carpet Grass																															5	1
Bauera microphylla	-																							0.1	1								
Bidens pilosa	Cobbler's Pegs																																
Billardiera scandens	Hairy Apple Berry									0.1	1	0.1	1	0.1	1							0.2	1										
Bossiaea buxifolia	-																													0.1	1		
Bothriochloa macra	Red Grass																											0.1	1			5	1
Brachyloma daphnoides	Daphne Heath									0.1	1			0.1	1											0.1	1						
Brachyscome aculeata	Hill Daisy																									0.1	1						
Briza minor	Shivery Grass																																
Bromus cartharticus	Prairie Grass																																
Bromus catharticus	Praire Grass															40	1	0.1	1	1	1												
Bromus hordeaceus	Soft Brome															0.8	1	0.2	1														
Bursaria spinosa	Native Blackthorn																													0.1	1	0.3	1
Bursaria spinosa subsp. *spinosa*	Native Blackthorn																					1	1										
Calotis lappulacea	Yellow Burr-daisy							0.1	1																								
Carduus nutans	Nodding Thistle							0.1	1																								
Carduus pycnocephalus	Slender Thistle																																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Carex appressa	Tall Sedge									0.2	1																						
Carex inversa	Knob Sedge											0.2	1																				
Carthamus lanatus	Saffron Thistle															0.5	1																
Cassinia aculeata	Dolly Bush			1	1	2	1			35	1	10	1	0.1	1																		
Cassinia arcuata	Sifton Bush			5	1	20	1	50	1																							0.1	1
Cassinia laevis	Cough Bush																					50	1	45	1	1	1	0.5	1	5	1		
Cassinia longifolia	-																							0.1	1								
Cassinia quinquefaria	-																							0.1	1	0.5	1						
Cassinia sp.	-																					0.5	1							0.1	1		
Centaurium erythraea	Common Centaury	0.3	1	0.1	1					0.1	1	0.1	1																				
Centaurium tenuiflorum	Branched Centaury, Slender Centaury																					0.1	1										
Chamaesyce dallachyana	-																																
Cheilanthes sieberi	Rock Fern	0.1	1	0.1	1			0.1	1	0.1	1													0.1	1	0.1	1						
Chenopodium album	Fat Hen																																
Chloris truncata	Windmill Grass																															0.1	1
Chloris ventricosa	Tall Chloris																																
Chondrilla juncea	Skeleton Weed																																
Chrysocephalum apiculatum	Common Everlasting																																
Cirsium arvense	Perennial Thistle																	30	1	5	1	0.1	1					0.1	1			0.1	1
Cirsium vulgare	Spear Thistle			0.1	1			0.1	1	0.1	1	0.1	1			5	1			0.5	1			0.1	1	0.1	1	0.1	1				
Clematis aristata	Old Man's Beard									0.1	1	0.2	1																				
Convolvulus erubescens	Pink Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1					0.1	1	0.1	1	0.1	1	0.1	1	0.2	1	0.1	1	0.1	1		

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Crataegus monogyna	Hawthorn																																
Cymbonotus lawsonianus	Bear's Ear							0.1	1															0.2	1								
Cynodon dactylon	Common Couch																																
Cynosurus echinatus	Rough Dog's Tail																							0.1	1								
Cyperus eragrostis	Umbrella Sedge																																
Cyperus sanguinolentus	-																																
Cyperus sp.	-																			0.1	1												
Dactylis glomerata	Cocksfoot	0.1	1													8	1	30	1	40	1											15	1
Dampiera purpurea	-					0.1	1																										
Datura stramonium	Common Thornapple																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil							0.1	1																			0.1	1				
Dianella caerulea	Blue Flax-lily																									0.2	1			0.1	1		
Dichelachne micrantha	Shorthair Plumegrass			1	1			5	1	0.1	1	0.1	1									1	1			0.8	1			0.2	1		
Dichelachne rara	-																					0.2	1	0.1	1					0.1	1		
Dichondra repens	Kidney Weed							0.2	1	35	1	30	1					0.1	1			0.5	1	0.2	1			0.1	1				
Digitaria ischaemum	-																																
Digitaria ramularis	Finger Panic Grass																																
Digitaria sanguinalis	Crab Grass																																
Digitaria sp.	A Finger Grass																																
Dipodium roseum	-																									0.1	1						
Dysphania pumilio	Small Crumbweed															0.1	1																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dysphania sp.	-																																
Echinochloa crus-galli	Barnyard Grass																																
Echinopogon caespitosus	Bushy Hedgehog-grass			0.2	1			1	1													10	1							0.1	1		
Echinopogon ovatus	Forest Hedgehog Grass																	0.2	1					5	1								
Echium italicum	Italian Bugloss																																
Echium plantagineum	Patterson's Curse																											0.1	1				
Ehrharta erecta	Panic Veldtgrass																																
Einadia hastata	Berry Saltbush					0.1	1															0.2	1	0.8	1	0.1	1						
Einadia nutans	Climbing Saltbush																	0.1	1														
Eleusine tristachya	Goose Grass															0.1	1															0.1	1
Elymus scaber	Common Wheatgrass																	0.1	1					0.2	1								
Enneapogon avenaceus	Bottle Washers									5	1	10	1																				
Entolasia stricta	Wiry Panic									0.1	1			3	1																		
Eragrostis brownii	Brown's Lovegrass																															5	1
Eragrostis leptostachya	Paddock Lovegrass																																
Eragrostis sp.	A Lovegrass																					0.5	1	0.1	1								
Eragrostis trachycarpa	A Lovegrass																																
Erodium cicutarium	Common Crowfoot																																
Erodium crinitum	Blue Crowfoot																																
Eucalyptus amplifolia	Cabbage Gum																																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus blakelyi	Blakely's Red Gum																																
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus dives	Broad-leaved Peppermint									0.1	1	10	1									0.1	1	8	1	2	1	5	1				
Eucalyptus eugenioides	Thin-leaved Stringybark			30	1	30	1	25	1																								
Eucalyptus globoidea	White Stringybark									0.1	1			8	1																		
Eucalyptus macrorhyncha	Red Stringybark																	10	1	15	1	15	1	2	1	10	1			20	1	1	1
Eucalyptus mannifera	Brittle Gum																					10	1			8	1			10	1	5	1
Eucalyptus melliodora	Yellow Box																																
Eucalyptus punctata	Grey Gum					2	1	3	1					1	1																		
Eucalyptus radiata	Narrow-leaved Peppermint									15	1	15	1																				
Eucalyptus sieberi	Silvertop Ash													5	1																		
Eucalyptus viminalis	Ribbon Gum											10	1											10	1								
Euchiton japonicus	-																					0.1	1	0.1	1	0.1	1			0.1	1		
Euchiton sphaericus	Star Cudweed	0.2	1	0.1	1	0.1	1	0.1	1	0.2	1	0.1	1													0.1	1			0.1	1	0.1	1
Exocarpos cupressiformis	Cherry Ballart																					0.8	1										
Galium propinquum	Maori Bedstraw									0.1	1	0.1	1																				
Galium sp.	-							0.1	1																								
Gamochaeta americana	Cudweed																											0.1	1				
Geranium potentilloides	-																																
Geranium solanderi	Native Geranium							0.1	1	0.1	1	0.1	1			0.8	1	1	1	20	1			0.5	1			0.5	1				

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Geranium sp. *2*	-											0.1	1																				
Glycine clandestina	Twining glycine																																
Glycine tabacina	Variable Glycine									0.5	1	0.1	1																				
Gnaphalium americanum	Cundweed																					0.1	1										
Gonocarpus tetragynus	Poverty Raspwort			1	1	0.1	1			0.5	1	0.2	1									1	1	0.2	1	0.1	1			0.1	1		
Goodenia hederacea	Ivy Goodenia			0.1	1	2	1	0.2	1	2	1			2	1							0.5	1	0.2	1	1	1			1	1		
Haloragis heterophylla	Variable Raspwort																																
Hardenbergia violacea	False Sarsaparilla							0.1	1					0.1	1											2	1			0.1	1		
Hibbertia obtusifolia	Hoary Guinea Flower			0.2	1	1	1							0.1	1							0.1	1	0.1	1	0.1	1			0.2	1		
Hirschfeldia incana	Buchan Weed																																
Holcus lanatus	Yorkshire Fog																			5	1							3	1			0.2	1
Hordeum leporinum	Barley Grass																																
Hordeum vulgare	Barley																																
Hovea lanceolata	-																																
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort			0.1	1			0.1	1	0.1	1							0.1	1	0.1	1	0.1	1	0.2	1								
Hypericum gramineum	Small St John's Wort																					0.1	1	0.1	1								
Hypochaeris radicata	Catsear	2	1	0.1	1	0.1	1	0.1	1	0.2	1	0.2	1	0.1	1			5	1	5	1	1	1	1	1	0.1	1	0.8	1	0.1	1	4	1
Isolepis gaudichaudiana	Benambra Club-sedge																																
Juncus australis	Rush	0.1	1																														
Juncus bufonius	Toad Rush																																
Juncus filicaulis	-																																
Juncus sp.	A Rush																																
Juncus usitatus	-															0.2	1																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lactuca serriola	Prickly Lettuce																																
Lagenifera stipitata	Blue Bottle-daisy									0.1	1																						
Lagenophora sp.	-																																
Laxmannia gracilis	Slender Wire Lily																									0.1	1						
Lepidium africanum	Common Peppercress															0.1	1																
Lepidosperma laterale	Variable Sword-sedge							0.1	1																								
Lepyrodia scariosa	-									0.2	1			0.1	1																		
Lissanthe strigosa	Peach Heath					0.1	1															0.8	1							0.2	1		
Lissanthe strigosa subsp. *subulata*	Peach Heath	0.1	1	0.1	1			0.1	1																								
Lolium perenne	Perennial Ryegrass															40	1	10	1														
Lomandra filiformis	Wattle Matt-rush					0.1	1			0.1	1	0.1	1	0.2	1																		
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																									0.1	1			0.2	1		
Lomandra glauca	Pale Mat-rush					0.1	1																										
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush					0.1	1	0.1	1	0.1	1			0.1	1									0.1	1								
Lomatia myricoides	River Lomatia											0.2	1																				
Luzula densiflora	Woodrush											0.1	1									0.1	1										
Lysimachia arvensis	Scarlet Pimpernel																					0.1	1					0.1	1				
Lythrum hyssopifolia	Hyssop Loosestrife															8	1											0.2	1				
Malva neglecta	Dwarf Mallow																																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Malva parviflora	Small-flowered Mallow																																
Marrubium vulgare	White Horehound																																
Melichrus urceolatus	Urn Heath			0.1	1	0.1	1					0.1	1									0.1	1	0.1	1	0.1	1			0.1	1		
Microlaena stipoides	Weeping Grass	70	1	5	1	0.2	1	5	1	10	1	30	1					35	1	15	1	10	1	5	1			25	1	0.5	1	20	1
Microlaena stipoides var. *stipoides*	Weeping Grass																																
Microtis sp.	-	0.1	1																														
Modiola caroliniana	Red-flowered Mallow															5	1	0.1	1														
Nassella neesiana	Chilean Needle Grass																																
Nassella trichotoma	Serrated Tussock																																
Olearia microphylla	-			3	1	0.2	1																										
Olearia sp.	-			0.1	1	0.1	1	0.2	1																								
Olearia viscidula	Wallaby Weed									5	1	0.2	1	0.1	1							20	1	1	1	0.1	1			0.3	1	0.1	1
Onopordum acanthium	Scotch Thistle																																
Opercularia diphylla	Stinkweed											0.1	1	0.1	1							0.1	1	0.1	1	0.1	1			0.1	1		
Oreomyrrhis eriopoda	Australian Carraway											0.1	1																				
Oxalis corniculata	Creeping Oxalis																	0.1	1														
Oxalis perennans	-									0.1	1	0.1	1			0.1	1			0.1	1	0.1	1	0.1	1			0.1	1			0.1	1
Oxalis sp.	-	0.1	1	0.1	1																												
Ozothamnus sp.	-																					0.1	1										
Panicum effusum	Hairy Panic	0.1	1																														
Panicum gilvum	-																																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Panicum simile	Two-colour Panic																											0.1	1			10	1
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow															0.1	1	0.1	1					0.1	1							0.1	1
Paspalum dilatatum	Paspalum																																
Persoonia linearis	Narrow-leaved Geebung													0.1	1							0.1	1			0.2	1			0.1	1		
Petrorhagia dubia	-																							0.1	1							0.1	1
Petrorhagia nanteuilii	Proliferous Pink																																
Phalaris aquatica	Phalaris																							0.1	1							0.1	1
Phytolacca octandra	Inkweed							0.1	1											0.1	1												
Pittosporum spinescens	Wallaby Apple																							0.1	1								
Plantago debilis	Shade Plantain																																
Plantago lanceolata	Lamb's Tongues			0.1	1					0.1	1					1	1	10	1	10	1			10	1			30	1	0.1	1	10	1
Plantago varia	-											0.1	1											0.1	1								
Poa sieberiana	Snowgrass			20	1	15	1			0.1	1	2	1									0.5	1	0.2	1	0.5	1			0.2	1	0.1	1
Podolobium ilicifolium	Prickly Shaggy Pea													0.1	1																		
Polygonum aviculare	Wireweed																																
Polygonum sp.	-																																
Pomax umbellata	Pomax					0.2	1			0.2	1			30	1											0.1	1						
Poranthera microphylla	Small Poranthera			0.1	1	0.1	1	0.1	1			0.1	1	0.1	1							0.1	1	0.1	1	0.1	1			0.1	1		
Portulaca oleracea	Pigweed																																
Prunella vulgaris	Self-heal																			0.1	1							0.1	1				
Pseudognaphalium luteoalbum	Jersey Cudweed																																

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pteridium esculentum	Bracken									2	1	2	1					0.1	1									0.2	1				
Pterostylis sp.	Greenhood											0.1	1																				
Rhytidosporum procumbens	-													0.1	1																		
Rosa rubiginosa	Sweet Briar																					0.1	1	0.1	1								
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex									0.1	1	0.1	1									8	1	5	1	0.1	1	45	1				
Rumex acetosella	Sheep Sorrel	0.2	1	0.1	1											0.1	1	0.5	1	0.1	1	0.1	1	0.8	1	0.5	1	2	1			0.1	1
Rumex brownii	Swamp Dock																																
Rumex conglomeratus	Clustered Dock																																
Rumex crispus	Curled Dock																			0.1	1												
Rumex obtusifolius	Broadleaf Dock																											0.5	1				
Rumex sp.	Dock																																
Rytidosperma carphoides	Short Wallaby Grass			1	1																												
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass	0.3	1					0.1	1															0.1	1	0.5	1						
Rytidosperma racemosum	Wallaby Grass																	5	1	0.8	1	1	1	1	1			0.5	1	0.1	1	20	1
Rytidosperma sp.	-	1	1			0.1	1			1	1			0.1	1									0.1	1							0.5	1
Schoenus apogon	Fluke Bogrush											0.1	1																				
Senecio linearifolius	Fireweed Groundsel											0.2	1																				
Senecio madagascariensis	Fireweed																																
Senecio microbasis	-																							0.1	1	0.1	1						

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Senecio prenanthoides	-																					0.8	1										
Senecio quadridentatus	Cotton Fireweed																													0.1	1		
Senecio sp.	Groundsel, Fireweed									0.2	1	0.1	1																				
Senecio tenuiflorus	A fireweed																							0.5	1								
Senecio vulgaris	-																																
Setaria parviflora	-																																
Setaria pumila	Pale Pigeon Grass																																
Silybum marianum	Variegated Thistle																																
Sisymbrium officinale	Hedge Mustard																																
Solanum chenopodioides	Whitetip Nightshade																																
Solanum cinereum	Narrawa Burr							0.1	1																								
Solanum linearifolium	Mountain Kangaroo Apple									0.1	1																						
Solanum nigrum	Black-berry Nightshade					0.1	1	0.5	1			0.1	1					0.1	1	0.5	1			0.2	1								
Solanum prinophyllum	Forest Nightshade																							0.1	1								
Solanum radicans	Cusmayllo																																
Solanum sp.	-																									0.1	1			0.1	1		
Sonchus asper	Prickly Sowthistle																									0.1	1	0.1	1			0.1	1
Sonchus oleraceus	Common Sowthistle																																
Sorghum leiocladum	Wild Sorghum																																
Sporobolus creber	Slender Rat's Tail Grass																																
Stellaria media	Common Chickweed																							0.5	1								

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Stellaria pungens	Prickly Starwort									0.1	1	0.1	1																				
Stylidium lineare	Narrow-leaved Triggerplant																									0.1	1						
Stypandra glauca	Nodding Blue Lily			35	1	15	1	0.2	1			0.1	1	0.1	1															8	1		
Styphelia sp.	-											0.1	1																				
Tagetes minuta	Stinking Roger																																
Taraxacum officinale	Dandelion																																
Themeda triandra	Kangaroo Grass											0.1	1																				
Tolpis barbata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily	0.1	1																														
Trifolium arvense	Haresfoot Clover	2	1																														
Trifolium dubium	Yellow Suckling Clover																																
Trifolium glomeratum	Clustered Clover																																
Trifolium repens	White Clover	5	1													5	1	0.5	1	0.1	1							0.2	1				
Trifolium subterraneum	Subterranean Clover	1	1																														
Verbascum thapsus	Aarons Rod									0.1	1																						
Verbascum virgatum	Twiggy Mullein																			1	1			0.1	1								
Verbena bonariensis	Purpletop																																
Veronica plebeia	Trailing Speedwell			0.1	1	0.1	1	0.1	1	0.1	1	0.1	1									0.1	1	0.1	1			0.1	1				
Viola betonicifolia	Native Violet									0.1	1																						

Scientific name	Common name	BY008-E		BY008-F		BY008-G		BY008-H		BY010012FA		BY0109B6		BY010F5E		BY-014A		BY-014B		BY-014C		BY-014D		BY-014E		BY-014F		BY-014G		BY-014H		BY-014I	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Viola hederacea	Ivy-leaved Violet									0.2	1	0.5	1																				
Vittadinia cuneata	A Fuzzweed																															0.1	1
Vittadinia muelleri	A Fuzzweed			0.1	1																												
Vulpia myuros	Rat's Tail Fescue	0.1	1																					0.1	1							0.1	1
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell									0.1	1			0.1	1			0.1	1	0.1	1	0.1	1			0.1	1			0.1	1	0.1	1
Wahlenbergia sp.	Bluebell									0.1	1	0.1	1																				
Wahlenbergia stricta	Tall Bluebell					0.1	1	0.2	1															0.1	1								
Xanthium ambrosioides	-																																
Xanthium occidentale	Noogoora Burr																																
Xerochrysum bracteatum	Golden Everlasting																									0.1	1						

Table A5- 3: Bungonia BAM floristic data

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle							0.2	1										
Acacia genistifolia	Early Wattle											0.5	1						
Acacia implexa	Hickory Wattle																		
Acacia mearnsii	Black Wattle																		
Acacia parramattensis	Parramatta Wattle																		
Acacia sp.	Wattle											0.1	1						
Acacia terminalis	Sunshine Wattle																		
Acaena ovina	Acaena							0.1	1			0.1	1						
Adiantum aethiopicum	Common Maidenhair																		
Aira caryophyllea	Silvery Hairgrass																		
Aira cupaniana	Silvery Hairgrass											0.1	1						
Amaranthus retroflexus	Redroot Amaranth																		
Amyema sp.	Mistletoe											0.5	1						

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Anisopogon avenaceus	Oat Speargrass																		
Anthoxanthum odoratum	Sweet Vernal Grass																		
Arctotheca calendula	Capeweed																		
Aristida ramosa	Purple Wiregrass																		
Aristida vagans	Threeawn Speargrass																		
Arrhenatherum elatius	Oatgrass																		
Arthropodium milleflorum	Pale Vanilla-lily																		
Asperula conferta	Common Woodruff																		
Asplenium flabellifolium	Necklace Fern																		
Austrostipa bigeniculata	Yanganbil			5.1	2					0.1	1								
Austrostipa scabra	Speargrass																		
Axonopus fissifolius	Narrow-leafed Carpet Grass			5.1	2	10	1												
Bauera microphylla	-																		
Bidens pilosa	Cobbler's Pegs																		
Billardiera scandens	Hairy Apple Berry																		
Bossiaea buxifolia	-																		
Bothriochloa macra	Red Grass			5.1	2	5	1												
Brachyloma daphnoides	Daphne Heath	0.1	1							0.1	1								
Brachyscome aculeata	Hill Daisy									0.1	1								
Briza minor	Shivery Grass																		
Bromus cartharticus	Prairie Grass																		
Bromus catharticus	Praire Grass			0.1	1									10	1	80	1		
Bromus hordeaceus	Soft Brome																		
Bursaria spinosa	Native Blackthorn							15	1	10	1								
Bursaria spinosa subsp. *spinosa*	Native Blackthorn											0.6	1						
Calotis lappulacea	Yellow Burr-daisy																		
Carduus nutans	Nodding Thistle																		
Carduus pycnocephalus	Slender Thistle																		
Carex appressa	Tall Sedge																		
Carex inversa	Knob Sedge																		
Carthamus lanatus	Saffron Thistle			0.2	2	0.2	1												
Cassinia aculeata	Dolly Bush																		
Cassinia arcuata	Sifton Bush											0.8	1						
Cassinia laevis	Cough Bush	0.1	1					15	1	50	1	0.5	1						
Cassinia longifolia	-																		
Cassinia quinquefaria	-																		
Cassinia sp.	-							2	1	0.2	1	0.1	1						

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Centaurium erythraea	Common Centaury							0.1	1										
Centaurium tenuiflorum	Branched Centaury, Slender Centaury			0.2	2	0.1	1			0.1	1								
Chamaesyce dallachyana	-																		
Cheilanthes sieberi	Rock Fern																		
Chenopodium album	Fat Hen																		
Chloris truncata	Windmill Grass			0.2	2														
Chloris ventricosa	Tall Chloris																		
Chondrilla juncea	Skeleton Weed																		
Chrysocephalum apiculatum	Common Everlasting																		
Cirsium arvense	Perennial Thistle											0.1	1						
Cirsium vulgare	Spear Thistle					0.2	1			0.1	1	0.1	1	0.1	1			0.1	1
Clematis aristata	Old Man's Beard							0.5	1	0.1	1								
Convolvulus erubescens	Pink Bindweed																		
Conyza bonariensis	Flaxleaf Fleabane					0.1	1	0.2	1	0.1	1	30	1						
Crataegus monogyna	Hawthorn																		
Cymbonotus lawsonianus	Bear's Ear																		
Cynodon dactylon	Common Couch																		
Cynosurus echinatus	Rough Dog's Tail																		
Cyperus eragrostis	Umbrella Sedge			0.1	1														
Cyperus sanguinolentus	-																		
Cyperus sp.	-			0.2	1														
Dactylis glomerata	Cocksfoot			0.6	2									60	1	10	1	20	1
Dampiera purpurea	-																		
Datura stramonium	Common Thornapple																		
Desmodium gunnii	Slender Tick-trefoil							0.2	1										
Desmodium varians	Slender Tick-trefoil							0.1	1										
Dianella caerulea	Blue Flax-lily																		
Dichelachne micrantha	Shorthair Plumegrass							1	1			0.1	1						
Dichelachne rara	-							0.2	1	0.5	1								
Dichondra repens	Kidney Weed							1	1										
Digitaria ischaemum	-																		
Digitaria ramularis	Finger Panic Grass																		
Digitaria sanguinalis	Crab Grass																		
Digitaria sp.	A Finger Grass																		
Dipodium roseum	-																		
Dysphania pumilio	Small Crumbweed					0.1	1					0.1	1						

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dysphania sp.	-																		
Echinochloa crus-galli	Barnyard Grass																		
Echinopogon caespitosus	Bushy Hedgehog-grass							5	1	0.2	1								
Echinopogon ovatus	Forest Hedgehog Grass											0.1	1						
Echium italicum	Italian Bugloss			0.1	1														
Echium plantagineum	Patterson's Curse			0.1	1	0.2	1												
Ehrharta erecta	Panic Veldtgrass																		
Einadia hastata	Berry Saltbush	0.1	1					0.1	1	0.1	1	0.3	1						
Einadia nutans	Climbing Saltbush																		
Eleusine tristachya	Goose Grass			0.6	2	0.5	1												
Elymus scaber	Common Wheatgrass							0.1	1										
Enneapogon avenaceus	Bottle Washers																		
Entolasia stricta	Wiry Panic																		
Eragrostis brownii	Brown's Lovegrass			10.1	2	2	1	0.1	1										
Eragrostis leptostachya	Paddock Lovegrass																		
Eragrostis sp.	A Lovegrass																		
Eragrostis trachycarpa	A Lovegrass																		
Erodium cicutarium	Common Crowfoot																		
Erodium crinitum	Blue Crowfoot																		
Eucalyptus amplifolia	Cabbage Gum							5	1			0.2	1						
Eucalyptus blakelyi	Blakely's Red Gum																		
Eucalyptus bridgesiana	Apple Box																		
Eucalyptus dives	Broad-leaved Peppermint	1	1					1	1	10	1	0.5	1						
Eucalyptus eugenioides	Thin-leaved Stringybark																		
Eucalyptus globoidea	White Stringybark							1	1										
Eucalyptus macrorhyncha	Red Stringybark	15	1					10	1	10	1	10	1						
Eucalyptus mannifera	Brittle Gum	10	1							3	1	4	1						
Eucalyptus melliodora	Yellow Box									1	1	5	1						
Eucalyptus punctata	Grey Gum																		
Eucalyptus radiata	Narrow-leaved Peppermint															15	1		
Eucalyptus sieberi	Silvertop Ash																		
Eucalyptus viminalis	Ribbon Gum															10	1		
Euchiton japonicus	-											0.1	1						
Euchiton sphaericus	Star Cudweed							0.1	1			0.1	1						
Exocarpos cupressiformis	Cherry Ballart	0.2	1																
Galium propinquum	Maori Bedstraw																		
Galium sp.	-																		

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Gamochaeta americana	Cudweed																		
Geranium potentilloides	-																		
Geranium solanderi	Native Geranium					0.1	1							0.5	1			1	1
Geranium sp. *2*	-																		
Glycine clandestina	Twining Glycine																		
Glycine tabacina	Variable Glycine																		
Gnaphalium americanum	Cundweed																		
Gonocarpus tetragynus	Poverty Raspwort	0.1	1					2	1	0.1	1	5	1						
Goodenia hederacea	Ivy Goodenia	3	1					0.5	1	0.5	1	0.5	1						
Haloragis heterophylla	Variable Raspwort																		
Hardenbergia violacea	False Sarsaparilla	0.1	1							0.2	1	0.1	1						
Hibbertia obtusifolia	Hoary Guinea Flower	0.1	1					0.1	1	0.1	1	0.1	1						
Hirschfeldia incana	Buchan Weed																		
Holcus lanatus	Yorkshire Fog									0.1	1								
Hordeum leporinum	Barley Grass																		
Hordeum vulgare	Barley													0.2	1	1	1		
Hovea lanceolata	-							0.1	1										
Hovea linearis	-	0.1	1							0.1	1								
Hydrocotyle laxiflora	Stinking Pennywort							0.2	1	0.1	1								
Hypericum gramineum	Small St John's Wort							0.1	1	0.1	1								
Hypochaeris radicata	Catsear	0.1	1	5.1	2	0.1	1			0.2	1	1	1			0.1	1		
Isolepis gaudichaudiana	Benambra Club-sedge																		
Juncus australis	Rush																		
Juncus bufonius	Toad Rush																		
Juncus filicaulis	-																		
Juncus sp.	A Rush																		
Juncus usitatus	-			0.2	1							0.1	1						
Lactuca serriola	Prickly Lettuce																		
Lagenifera stipitata	Blue Bottle-daisy																		
Lagenophora sp.	-											0.1	1						
Laxmannia gracilis	Slender Wire Lily																		
Lepidium africanum	Common Peppercress																		
Lepidosperma laterale	Variable Sword-sedge																		
Lepyrodia scariosa	-																		
Lissanthe strigosa	Peach Heath	0.1	1					0.1	1			0.3	1						
Lissanthe strigosa subsp. *subulata*	Peach Heath																		

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lolium perenne	Perennial Ryegrass			0.5	1	0.8	1							0.1	1				
Lomandra filiformis	Wattle Matt-rush																		
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush							0.1	1	0.1	1	0.1	1						
Lomandra glauca	Pale Mat-rush																		
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush	0.2	1																
Lomatia myricoides	River Lomatia																		
Luzula densiflora	Woodrush									0.1	1								
Lysimachia arvensis	Scarlet Pimpernel			0.2	2	0.1	1	0.1	1										
Lythrum hyssopifolia	Hyssop Loosestrife																	0.1	1
Malva neglecta	Dwarf Mallow																		
Malva parviflora	Small-flowered Mallow																		
Marrubium vulgare	White Horehound																		
Melichrus urceolatus	Urn Heath									0.1	1								
Microlaena stipoides	Weeping Grass			5	1	5	1	2	1	0.1	1	1	1	15	1				
Microlaena stipoides var. *stipoides*	Weeping Grass																		
Microtis sp.	-																		
Modiola caroliniana	Red-flowered Mallow			0.1	1	0.1	1											0.1	1
Nassella neesiana	Chilean Needle Grass					1	1												
Nassella trichotoma	Serrated Tussock																		
Olearia microphylla	-																		
Olearia sp.	-																		
Olearia viscidula	Wallaby Weed	0.1	1					10	1	1	1	0.2	1						
Onopordum acanthium	Scotch Thistle																		
Opercularia diphylla	Stinkweed							0.2	1	0.1	1	0.2	1						
Oreomyrrhis eriopoda	Australian Carraway																		
Oxalis corniculata	Creeping Oxalis													0.1	1			0.1	1
Oxalis perennans	-			0.2	2	0.1	1	0.1	1	0.1	1	0.1	1						
Oxalis sp.	-																		
Ozothamnus sp.	-																		
Panicum effusum	Hairy Panic																		
Panicum gilvum	-																		
Panicum simile	Two-colour Panic	0.1	1	0.5	1	5	1												
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow											0.1	1						

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Paspalum dilatatum	Paspalum			5.1	2	10	1												
Persoonia linearis	Narrow-leaved Geebung																		
Petrorhagia dubia	-									0.1	1								
Petrorhagia nanteuilii	Proliferous Pink																		
Phalaris aquatica	Phalaris			0.1	1	0.5	1							15	1	10	1	70	1
Phytolacca octandra	Inkweed	0.5	1									0.1	1						
Pittosporum spinescens	Wallaby Apple																		
Plantago debilis	Shade Plantain							0.2	1										
Plantago lanceolata	Lamb's Tongues	0.1	1	10	1	0.8	1	0.1	1	0.1	1	0.1	1					0.2	1
Plantago varia	-																		
Poa sieberiana	Snowgrass	0.5	1					0.5	1	0.2	1	0.5	1						
Podolobium ilicifolium	Prickly Shaggy Pea																		
Polygonum aviculare	Wireweed																		
Polygonum sp.	-																		
Pomax umbellata	Pomax																		
Poranthera microphylla	Small Poranthera									0.1	1	0.1	1						
Portulaca oleracea	Pigweed																		
Prunella vulgaris	Self-heal																		
Pseudognaphalium luteoalbum	Jersey Cudweed			0.1	1														
Pteridium esculentum	Bracken																		
Pterostylis sp.	Greenhood																		
Rhytidosporum procumbens	-																		
Rosa rubiginosa	Sweet Briar																		
Rubus anglocandicans	Blackberry																		
Rubus fruticosus sp. *agg.*	Blackberry complex	0.1	1	0.9	2	0.1	1	0.1	1	0.1	1	0.1	1						
Rumex acetosella	Sheep Sorrel	0.1	1	0.1	1	0.1	1	0.2	1	0.1	1	15	1	0.2	1			0.1	1
Rumex brownii	Swamp Dock																		
Rumex conglomeratus	Clustered Dock																		
Rumex crispus	Curled Dock																		
Rumex obtusifolius	Broadleaf Dock			0.1	1														
Rumex sp.	Dock																		
Rytidosperma carphoides	Short Wallaby Grass																		
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass																		
Rytidosperma racemosum	Wallaby Grass			30.1	2	50	1	0.5	1	0.6	1								
Rytidosperma sp.	-							0.1	1			0.2	1						
Schoenus apogon	Fluke Bogrush																		

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Senecio linearifolius	Fireweed Groundsel																		
Senecio madagascariensis	Fireweed																		
Senecio microbasis	-																		
Senecio prenanthoides	-							0.1	1			0.1	1						
Senecio quadridentatus	Cotton Fireweed																		
Senecio sp.	Groundsel, Fireweed																		
Senecio tenuiflorus	A fireweed																		
Senecio vulgaris	-																		
Setaria parviflora	-			5.1	2	0.8	1												
Setaria pumila	Pale Pigeon Grass																		
Silybum marianum	Variegated Thistle															0.8	1		
Sisymbrium officinale	Hedge Mustard																		
Solanum chenopodioides	Whitetip Nightshade																		
Solanum cinereum	Narrawa Burr																		
Solanum linearifolium	Mountain Kangaroo Apple																		
Solanum nigrum	Black-berry Nightshade									0.1	1	0.1	1			0.2	1		
Solanum prinophyllum	Forest Nightshade							0.1	1	0.1	1								
Solanum radicans	Cusmayllo																		
Solanum sp.	-									0.1	1								
Sonchus asper	Prickly Sowthistle									0.1	1			0.5	1				
Sonchus oleraceus	Common Sowthistle																		
Sorghum leiocladum	Wild Sorghum																		
Sporobolus creber	Slender Rat's Tail Grass																		
Stellaria media	Common Chickweed																		
Stellaria pungens	Prickly Starwort																		
Stylidium lineare	Narrow-leaved Triggerplant																		
Stypandra glauca	Nodding Blue Lily																		
Styphelia sp.	-																		
Tagetes minuta	Stinking Roger																		
Taraxacum officinale	Dandelion																		
Themeda triandra	Kangaroo Grass																		
Tolpis barbata	Yellow Hawkweed																		
Tricoryne elatior	Yellow Autumn-lily																		
Trifolium arvense	Haresfoot Clover																		
Trifolium dubium	Yellow Suckling Clover																		
Trifolium glomeratum	Clustered Clover																		
Trifolium repens	White Clover			1.1	2	0.2	1											0.2	1

Scientific name	Common name	BY-014J		BY-014K		BY-014L		BY01640F		BY-016A		BY016CE4		BY-020A		BY-020B		BY-020C	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Trifolium subterraneum	Subterranean Clover																		
Verbascum thapsus	Aarons Rod																		
Verbascum virgatum	Twiggy Mullein			0.2	2														
Verbena bonariensis	Purpletop																		
Veronica plebeia	Trailing Speedwell							0.1	1	0.1	1								
Viola betonicifolia	Native Violet																		
Viola hederacea	Ivy-leaved Violet																		
Vittadinia cuneata	A Fuzzweed																		
Vittadinia muelleri	A Fuzzweed																		
Vulpia myuros	Rat's Tail Fescue																		
Wahlenbergia communis	Tufted Bluebell											0.1	1						
Wahlenbergia gracilis	Sprawling Bluebell					0.1	1												
Wahlenbergia sp.	Bluebell																		
Wahlenbergia stricta	Tall Bluebell							0.1	1	0.1	1								
Xanthium ambrosioides	-																		
Xanthium occidentale	Noogoora Burr																		
Xerochrysum bracteatum	Golden Everlasting											0.1	1						

Table A5- 4: Crookwell BAM floristic data

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																														
Acacia genistifolia	Early Wattle																														
Acacia gunnii	Ploughshare Wattle																														
Acacia melanoxylon	Blackwood																														
Acacia penninervis	Mountain Hickory																														
Acacia sp.	Wattle																									2	1				
Acacia terminalis	Sunshine Wattle																														
Acacia verniciflua	Varnish Wattle																														
Acaena ovina	Acaena																	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1				
Agrostis capillaris	Browntop Bent																														
Aira caryophyllea	Silvery Hairgrass																											0.5	1		
Aira cupaniana	Silvery Hairgrass									0.2	1									0.1	1										
Aira elegantissima	Delicate Hairgrass																														
Ajuga australis	Austral Bugle																														
Alternanthera denticulata	Lesser Joyweed																														
Amphibromus nervosus	Swamp Wallaby Grass																														
Amyema sp.	Mistletoe																														
Anisopogon avenaceus	Oat Speargrass																														
Anthoxanthum odoratum	Sweet Vernal Grass															0.5	1	3	1	15	1	45	1	25	1			0.5	1		
Aristida jerichoensis	Jericho Wiregrass																														
Aristida jerichoensis var. *jerichoensis*	Jericho Wiregrass																														
Aristida personata	-																														
Aristida ramosa	Purple Wiregrass																														
Aristida vagans	Threeawn Speargrass																													0.1	1
Arthropodium milleflorum	Pale Vanilla-lily																														
Asperula ambleia	Stiff Woodruff																														
Asperula conferta	Common Woodruff							0.1	1															0.1	1						
Austrostipa bigeniculata	Yanganbil			0.1	1																									0.1	1
Austrostipa scabra	Speargrass											0.1	1																		
Austrostipa sp.	A Speargrass																														
Avena barbata	Bearded Oats																														

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Axonopus fissifolius	Narrow-leafed Carpet Grass			0.1	1					0.1	1			0.1	1																
Billardiera scandens	Hairy Apple Berry																														
Bossiaea buxifolia	-																														
Bothriochloa bladhii subsp. *bladhii*	Forest Bluegrass																														
Bothriochloa macra	Red Grass							1	1					0.1	1									0.2	1						
Brachyloma daphnoides	Daphne Heath																													0.5	1
Brachyscome dentata	-																														
Brassica rapa	-															0.1	1														
Briza maxima	Quaking Grass																														
Briza minor	Shivery Grass																														
Briza subaristata	-																					0.1	1	3	1						
Bromus catharticus	Praire Grass	5	1	0.5	1	5	1					0.2	1			0.5	1														
Bromus hordeaceus	Soft Brome			0.2	1													5	1												
Bulbine bulbosa	Bulbine Lily																					0.1	1								
Calochilus sp.	-																														
Calotis lappulacea	Yellow Burr-daisy																														
Carduus pycnocephalus	Slender Thistle																														
Carex gaudichaudiana	-																														
Carex inversa	Knob Sedge							0.1	1																						
Carex polyantha	-																														
Carthamus lanatus	Saffron Thistle			5	1																										
Cassinia aculeata	Dolly Bush																													5	1
Cassinia arcuata	Sifton Bush																			0.1	1							0.1	1		
Cassinia laevis	Cough Bush													0.1	1	0.1	1			15	1			0.1	1						
Cassinia longifolia	-																														
Cassinia sp.	-																					0.1	1			0.1	1				
Cenchrus ciliaris	Buffel Grass																														
Centaurium erythraea	Common Centaury																	0.1	1									0.1	1		
Centaurium tenuiflorum	Branched Centaury, Slender Centaury							0.1	1											0.1	1	0.5	1	0.5	1	0.5	1				
Centella asiatica	Indian Pennywort																														
Cheilanthes sieberi	Rock Fern																														
Chiloglottis reflexa	-																														
Chloris truncata	Windmill Grass																														

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Chondrilla juncea	Skeleton Weed																														
Chrysocephalum apiculatum	Common Everlasting																											0.1	1		
Cirsium arvense	Perennial Thistle																														
Cirsium vulgare	Spear Thistle	0.1	1	10	1			0.5	1	0.1	1					5	1			5	1	3	1			0.5	1				
Convolvulus angustissimus	-																														
Convolvulus erubescens	Pink Bindweed																														
Conyza bonariensis	Flaxleaf Fleabane																							0.1	1	0.1	1				
Cotula australis	Common Cotula																														
Crataegus monogyna	Hawthorn																														
Cryptandra amara	Bitter Cryptandra																														
Cymbonotus lawsonianus	Bear's Ear																							0.2	1						
Cynodon dactylon	Common Couch																														
Cynosurus cristatus	Crested Dog's Tail																														
Cynosurus echinatus	Rough Dog's Tail									0.1	1									0.1	1										
Cyperus eragrostis	Umbrella Sedge																														
Cyperus sp.	-																			0.1	1										
Dactylis glomerata	Cocksfoot	10	1			40	1													0.5	1	0.1	1			1	1				
Daucus glochidiatus	Native Carrot																														
Daviesia latifolia	Bitter-pea																														
Desmodium gunnii	Slender Tick-trefoil																														
Desmodium varians	Slender Tick-trefoil																	0.1	1			0.2	1	0.2	1	0.1	1				
Dianella caerulea	Blue Flax-lily																									0.5	1				
Dianella longifolia	Blueberry Lily																	0.5	1												
Dianella revoluta	Blueberry Lily																														
Dichelachne inaequiglumis	-																														
Dichelachne micrantha	Shorthair Plumegrass																														
Dichelachne parva	-																			0.1	1										
Dichelachne rara	-																														
Dichopogon fimbriatus	Nodding Chocolate Lily																									0.1	1				
Dichopogon strictus	Chocolate Lily																														
Dillwynia retorta	-																														
Drosera spatulata	-																											0.1	1		
Dysphania pumilio	Small Crumbweed			0.1	1																										

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Echium plantagineum	Patterson's Curse																														
Einadia hastata	Berry Saltbush																														
Einadia nutans	Climbing Saltbush																														
Eleusine indica	Crowsfoot Grass																														
Eleusine tristachya	Goose Grass																														
Elymus scaber	Common Wheatgrass							0.5	1	0.5	1	0.2	1							0.5	1			0.1	1						
Epilobium billardierianum	-																	0.1	1												
Eragrostis brownii	Brown's Lovegrass									0.1	1	0.2	1	0.1	1					0.1	1			0.1	1						
Eragrostis curvula	African Lovegrass																														
Eragrostis parviflora	Weeping Lovegrass																											0.2	1		
Eragrostis pilosa	Soft Lovegrass																														
Eragrostis trachycarpa	A Lovegrass																														
Eucalyptus blakelyi	Blakely's Red Gum																														
Eucalyptus bridgesiana	Apple Box																														
Eucalyptus dalrympleana	Mountain Gum																														
Eucalyptus dives	Broad-leaved Peppermint									5	1	8	1							30	1	20	1								
Eucalyptus elata	River Peppermint																														
Eucalyptus goniocalyx	Bundy																														
Eucalyptus macrorhyncha	Red Stringybark																														
Eucalyptus mannifera	Brittle Gum																														
Eucalyptus melliodora	Yellow Box																														
Eucalyptus pauciflora	White Sally															30	1									30	1				
Eucalyptus radiata	Narrow-leaved Peppermint																													1	1
Eucalyptus rossii	Inland Scribbly Gum																														
Eucalyptus sieberi	Silvertop Ash																													30	1
Eucalyptus stellulata	Black Sally																														
Eucalyptus viminalis	Ribbon Gum																														
Euchiton involucratus	Star Cudweed																														
Euchiton japonicus	-																									0.1	1				
Euchiton sp.	A Cudweed																														
Euchiton sphaericus	Star Cudweed																			0.1	1			0.1	1			1	1		
Euphorbia drummondii	Caustic Weed																														
Festuca elatior	Tall Fescue																														
Fimbristylis sp.	-																														

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Galium sp.	-																														
Gamochaeta americana	Cudweed			0.1	1																			0.1	1			0.1	1		
Geranium homeanum	-							0.2	1																						
Geranium neglectum	-																														
Geranium retrorsum	Cranesbill Geranium																														
Geranium solanderi	Native Geranium					0.1	1			0.5	1	0.2	1			0.2	1	0.1	1	0.5	1	0.2	1			0.1	1				
Glycine tabacina	Variable Glycine																			0.1	1										
Gompholobium aspalathoides	-																														
Gonocarpus tetragynus	Poverty Raspwort																			0.2	1					0.5	1	0.2	1	5	1
Goodenia hederacea	Ivy Goodenia																			0.1	1									0.5	1
Goodenia hederacea subsp. *hederacea*	-																														
Hardenbergia violacea	False Sarsaparilla																														
Hemarthria uncinata	Matgrass																														
Hibbertia obtusifolia	Hoary Guinea Flower																			0.1	1									0.2	1
Hibbertia riparia	-																														
Holcus lanatus	Yorkshire Fog							5	1	65	1	0.8	1	2	1	60	1			40	1	3	1			0.5	1				
Hordeum leporinum	Barley Grass																														
Hordeum vulgare	Barley	0.1	1	5	1	1	1																								
Hovea heterophylla	-																														
Hovea lanceolata	-																														
Hovea linearis	-																													0.1	1
Hydrocotyle laxiflora	Stinking Pennywort																			0.2	1	0.1	1								
Hypericum gramineum	Small St John's Wort																	0.1	1	0.1	1	0.1	1	0.1	1			0.1	1		
Hypericum perforatum	St. Johns Wort															0.1	1	0.5	1	0.2	1	5	1	5	1	1	1				
Hypochaeris glabra	Smooth Catsear																													0.1	1
Hypochaeris radicata	Catsear							0.1	1	0.2	1	5	1	1	1	8	1	0.1	1	0.5	1	0.5	1	0.1	1	30	1	0.1	1		
Isotoma fluviatilis	Swamp Isotome																														
Juncus australis	Rush																														
Juncus capitatus	-																														
Juncus filicaulis	-																														
Juncus homalocaulis	-																														
Juncus radula	-																														
Juncus sp.	A Rush							0.1	1	0.1	1			0.1	1													0.1	1		
Juncus usitatus	-																											0.1	1		

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Leptomeria acida	Sour Currant Bush																														
Leptorhynchos squamatus	Scaly Buttons																											0.1	1		
Leptorhynchos squamatus subsp. *squamatus*	-																														
Leucochrysum albicans var. *tricolor*	Hoary Sunray																														
Leucopogon fletcheri subsp. *brevisepalus*	-																														
Leucopogon sp.	A Beard-heath																														
Linum marginale	Native Flax																														
Lissanthe strigosa	Peach Heath																														
Lobelia pedunculata	Matted Pratia																														
Lolium perenne	Perennial Ryegrass			80	1	70	1	1	1			1	1																		
Lomandra bracteata	Mat-rush																														
Lomandra filiformis	Wattle Matt-rush																														
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																													3	1
Lomandra longifolia	Spiny-headed Mat-rush																														
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																									0.1	1			0.1	1
Luzula densiflora	Woodrush																														
Luzula sp.	-																														
Lysimachia arvensis	Scarlet Pimpernel																														
Lysimachia japonica	-																														
Lythrum hyssopifolia	Hyssop Loosestrife																														
Malva parviflora	Small-flowered Mallow	0.1	1	0.1	1																										
Medicago minima	Woolly Burr Medic																														
Melichrus urceolatus	Urn Heath																	0.1	1											0.2	1
Microlaena stipoides	Weeping Grass							0.5	1	15	1	75	1	5	1	0.5	1			30	1	10	1	5	1			5	1	0.2	1
Microlaena stipoides var. *stipoides*	Weeping Grass																														
Microtis rara	Scented Onion Orchid																							0.1	1						
Microtis sp.	-																														
Microtis unifolia	Common Onion Orchid																														
Modiola caroliniana	Red-flowered Mallow	0.1	1																												
Nassella neesiana	Chilean Needle Grass													0.1	1																
Nassella trichotoma	Serrated Tussock																														

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Olearia microphylla	-																														
Onopordum acanthium	Scotch Thistle																														
Opercularia diphylla	Stinkweed																			0.1	1					0.1	1				
Opercularia hispida	Hairy Stinkweed																	0.1	1												
Oreomyrrhis eriopoda	Australian Carraway																							0.1	1						
Oreomyrrhis sp.	-																														
Oxalis corniculata	Creeping Oxalis	0.1	1	0.1	1			0.1	1											0.1	1										
Oxalis perennans	-									0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1		
Oxalis sp.	-																														
Panicum effusum	Hairy Panic																	0.5	1												
Panicum simile	Two-colour Panic													0.1	1									5	1						
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																														
Paspalum dilatatum	Paspalum							5	1																						
Persoonia linearis	Narrow-leaved Geebung																													0.5	1
Petrorhagia dubia	-																														
Petrorhagia nanteuilii	Proliferous Pink																														
Petrorhagia prolifera	Proliferous Pink																														
Phalaris aquatica	Phalaris	80	1													0.2	1														
Phleum pratense	Timothy																									50	1				
Phytolacca octandra	Inkweed															0.1	1														
Pimelea curviflora	Rice Flower																														
Pimelea curviflora var. *sericea*	-																														
Pimelea linifolia	Slender Rice Flower																														
Plantago lanceolata	Lamb's Tongues							0.2	1			0.2	1			0.2	1	0.2	1	0.5	1	45	1	1	1	5	1				
Plantago varia	-																									0.1	1	0.1	1		
Platysace lanceolata	Shrubby Platysace																														
Poa labillardierei var. *labillardierei*	Tussock																														
Poa sieberiana	Snowgrass							0.5	1	0.5	1					5	1			0.1	1							0.1	1	0.2	1
Poaceae indeterminate	Grasses, reeds and bamboos																														
Podolepis jaceoides	Showy Copper-wire Daisy																														
Pomax umbellata	Pomax																													0.5	1
Poranthera microphylla	Small Poranthera																													0.1	1

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Prunella vulgaris	Self-heal																														
Pteridium esculentum	Bracken																									5	1			0.2	1
Pultenaea microphylla	A Bush Pea																														
Pultenaea subspicata	Low Bush-pea																														
Quercus robur	English Oak															0.1	1														
Ranunculus lappaceus	Common Buttercup																	0.2	1												
Rhytidosporum procumbens	-																														
Rosa rubiginosa	Sweet Briar																	0.1	1												
Rubus anglocandicans	Blackberry																														
Rubus fruticosus sp. *agg.*	Blackberry complex							0.2	1	1	1					1	1	0.1	1							1	1				
Rumex acetosella	Sheep Sorrel	0.2	1	0.1	1			0.5	1	0.2	1	1	1	0.1	1	1	1	0.2	1			0.1	1	0.1	1	0.1	1				
Rumex brownii	Swamp Dock																	0.1	1												
Rumex crispus	Curled Dock													0.1	1																
Rumex obtusifolius	Broadleaf Dock																							0.1	1						
Rytidosperma carphoides	Short Wallaby Grass																													0.1	1
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass																													0.1	1
Rytidosperma racemosum	Wallaby Grass							65	1					5	1	0.5	1			0.5	1			0.5	1						
Rytidosperma setaceum	Small-flowered Wallaby-grass																														
Rytidosperma sp.	-									5	1	2	1					1	1									1	1	0.2	1
Schoenus apogon	Fluke Bogrush																			0.1	1	0.1	1	1	1			1	1	0.1	1
Scleranthus biflorus	Two-flowered Knawel																														
Scleranthus fasciculatus	-																														
Senecio madagascariensis	Fireweed																														
Senecio microbasis	-																														
Senecio prenanthoides	-																														
Senecio quadridentatus	Cotton Fireweed															0.5	1					2	1			1	1				
Senecio sp.	Groundsel, Fireweed																														
Setaria parviflora	-																														
Silybum marianum	Variegated Thistle					10	1																								
Solanum nigrum	Black-berry Nightshade															0.5	1			0.2	1	0.5	1								
Solenogyne dominii	-																														
Solenogyne gunnii	Solengyne																														
Sonchus asper	Prickly Sowthistle											0.1	1							0.1	1					0.1	1				

Scientific Name	Common Name	BY-021A		BY-023A		BY-023B		BY-026A		BY-029A		BY-029B		BY-029C		BY-029D		BY03130D		BY-032A		BY-032B		BY-032C		BY-032D		BY0348E7		BY035D53	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sonchus oleraceus	Common Sowthistle																														
Sporobolus creber	Slender Rat's Tail Grass																							0.1	1						
Stellaria pungens	Prickly Starwort																														
Stylidium graminifolium	Grass Triggerplant																														
Stylidium lineare	Narrow-leaved Triggerplant																														
Stylidium sp.	-																													0.1	1
Themeda triandra	Kangaroo Grass							0.1	1					70	1			75	1					65	1			90	1		
Tolpis barbata	Yellow Hawkweed																							0.1	1						
Tolpis umbellata	Yellow Hawkweed																														
Tricoryne elatior	Yellow Autumn-lily													0.2	1																
Trifolium arvense	Haresfoot Clover																							0.1	1						
Trifolium campestre	Hop Clover							0.1	1																						
Trifolium repens	White Clover			0.1	1	0.1	1	5	1			0.1	1																		
Trifolium subterraneum	Subterranean Clover																														
Triptilodiscus pygmaeus	Common Sunray																											0.1	1		
Verbascum virgatum	Twiggy Mullein																														
Veronica plebeia	Trailing Speedwell																														
Viola betonicifolia	Native Violet																														
Viola sp.	-																														
Vittadinia cuneata	A Fuzzweed																													0.1	1
Vulpia bromoides	Squirrel Tail Fesque																														
Vulpia myuros	Rat's Tail Fescue													2	1					0.1	1			0.5	1						
Wahlenbergia communis	Tufted Bluebell																														
Wahlenbergia gracilis	Sprawling Bluebell																														
Wahlenbergia multicaulis	Tadgell's Bluebell																														
Wahlenbergia sp.	Bluebell																											0.1	1		
Wahlenbergia stricta	Tall Bluebell																			0.1	1										
Wurmbea dioica subsp. *dioica*	Early Nancy																														
Xylomelum pyriforme	Woody Pear																														
Xyris sp.	-																														

Table A5- 5: Crookwell BAM floristic data

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																			5	1	0.2	1			4	1	0.5	1	1	1		
Acacia genistifolia	Early Wattle																													0.1	1		
Acacia gunnii	Ploughshare Wattle			0.1	1													0.1	1			0.1	1					0.1	1				
Acacia melanoxylon	Blackwood																																
Acacia penninervis	Mountain Hickory	1	1																													5	1
Acacia sp.	Wattle			0.1	1							0.1	1																				
Acacia terminalis	Sunshine Wattle			1	1																												
Acacia verniciflua	Varnish Wattle																													0.1	1		
Acaena ovina	Acaena																											0.1	1				
Agrostis capillaris	Browntop Bent																																
Aira caryophyllea	Silvery Hairgrass					0.5	1	0.1	1	5	1	0.1	1			0.1	1			0.1	1					0.1	1						
Aira cupaniana	Silvery Hairgrass																					0.1	1										
Aira elegantissima	Delicate Hairgrass																																
Ajuga australis	Austral Bugle																					0.1	1					0.1	1				
Alternanthera denticulata	Lesser Joyweed																					0.1	1										
Amphibromus nervosus	Swamp Wallaby Grass																																
Amyema sp.	Mistletoe																																
Anisopogon avenaceus	Oat Speargrass	0.5	1																														
Anthoxanthum odoratum	Sweet Vernal Grass	0.2	1					0.1	1	0.5	1	2	1	0.1	1					0.1	1	1	1	0.5	1	0.2	1	0.5	1	0.5	1		

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Aristida jerichoensis	Jericho Wiregrass																																
Aristida jerichoensis var. *jerichoensis*	Jericho Wiregrass					10	1													1	1												
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass																									0.2	1			5	1		
Aristida vagans	Threeawn Speargrass																			1	1			0.2	1								
Arthropodium milleflorum	Pale Vanilla-lily																																
Asperula ambleia	Stiff Woodruff																			0.1	1												
Asperula conferta	Common Woodruff																											0.1	1				
Austrostipa bigeniculata	Yanganbil					5	1			0.2	1											0.1	1										
Austrostipa scabra	Speargrass															5	1					0.5	1										
Austrostipa sp.	A Speargrass																															0.1	1
Avena barbata	Bearded Oats																																
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Billardiera scandens	Hairy Apple Berry	0.1	1	0.1	1																												
Bossiaea buxifolia	-																			0.1	1			0.2	1								
Bothriochloa bladhii subsp. *bladhii*	Forest Bluegrass																																
Bothriochloa macra	Red Grass																																
Brachyloma daphnoides	Daphne Heath			0.1	1	0.2	1											0.2	1							0.1	1	0.1	1	0.1	1		

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Brachyscome dentata	-					0.1	1																										
Brassica rapa	-																																
Briza maxima	Quaking Grass																																
Briza minor	Shivery Grass																									0.1	1			0.1	1		
Briza subaristata	-																			0.1	1			0.1	1								
Bromus catharticus	Praire Grass																																
Bromus hordeaceus	Soft Brome																																
Bulbine bulbosa	Bulbine Lily																																
Calochilus sp.	-																							0.1	1								
Calotis lappulacea	Yellow Burr-daisy																					0.2	1										
Carduus pycnocephalus	Slender Thistle																																
Carex gaudichaudiana	-																																
Carex inversa	Knob Sedge	0.5	1																														
Carex polyantha	-											2	1																				
Carthamus lanatus	Saffron Thistle																																
Cassinia aculeata	Dolly Bush	5	1																													1	1
Cassinia arcuata	Sifton Bush					0.2	1	0.5	1	0.1	1	35	1	35	1	0.8	1	0.1	1	10	1	20	1			15	1	0.1	1	5	1		
Cassinia laevis	Cough Bush																							0.5	1							0.1	1
Cassinia longifolia	-																													0.2	1		
Cassinia sp.	-																																
Cenchrus ciliaris	Buffel Grass																																
Centaurium erythraea	Common Centaury					0.1	1	0.1	1	0.1	1	0.5	1							0.1	1			0.1	1	0.1	1	0.1	1	0.1	1		

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Centaurium tenuiflorum	Branched Centaury, Slender Centaury																																
Centella asiatica	Indian Pennywort	0.2	1																														
Cheilanthes sieberi	Rock Fern							0.1	1																					0.1	1		
Chiloglottis reflexa	-	0.1	1																														
Chloris truncata	Windmill Grass																																
Chondrilla juncea	Skeleton Weed																																
Chrysocephalum apiculatum	Common Everlasting					0.1	1																	0.1	1	0.2	1						
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle											0.1	1							0.1	1	0.5	1										
Convolvulus angustissimus	-																																
Convolvulus erubescens	Pink Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane							0.1	1	0.1	1	0.1	1									0.1	1							0.1	1		
Cotula australis	Common Cotula															0.1	1																
Crataegus monogyna	Hawthorn																																
Cryptandra amara	Bitter Cryptandra																							0.8	1								
Cymbonotus lawsonianus	Bear's Ear																																
Cynodon dactylon	Common Couch																																
Cynosurus cristatus	Crested Dog's Tail																																

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cynosurus echinatus	Rough Dog's Tail																													0.1	1		
Cyperus eragrostis	Umbrella Sedge																																
Cyperus sp.	-																																
Dactylis glomerata	Cocksfoot							0.1	1							0.2	1																
Daucus glochidiatus	Native Carrot																					0.1	1										
Daviesia latifolia	Bitter-pea			0.2	1	0.1	1	0.2	1									1	1	0.1	1	0.5	1							0.5	1	0.1	1
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil																					0.1	1										
Dianella caerulea	Blue Flax-lily															0.1	1	0.1	1														
Dianella longifolia	Blueberry Lily																																
Dianella revoluta	Blueberry Lily																															0.1	1
Dichelachne inaequiglumis	-																											0.1	1				
Dichelachne micrantha	Shorthair Plumegrass					0.8	1			0.1	1	0.1	1							0.5	1	1	1	0.1	1	0.2	1	0.5	1	1	1		
Dichelachne parva	-																																
Dichelachne rara	-			0.5	1																	0.5	1										
Dichopogon fimbriatus	Nodding Chocolate Lily																																
Dichopogon strictus	Chocolate Lily																																
Dillwynia retorta	-																																
Drosera spatulata	-													0.1	1																		

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dysphania pumilio	Small Crumbweed															0.1	1					0.2	1										
Echium plantagineum	Patterson's Curse																																
Einadia hastata	Berry Saltbush															0.1	1					0.1	1										
Einadia nutans	Climbing Saltbush															0.2	1					0.2	1										
Eleusine indica	Crowsfoot Grass																																
Eleusine tristachya	Goose Grass																					0.1	1										
Elymus scaber	Common Wheatgrass									0.1	1											0.1	1										
Epilobium billardierianum	-																																
Eragrostis brownii	Brown's Lovegrass																			0.1	1												
Eragrostis curvula	African Lovegrass																																
Eragrostis parviflora	Weeping Lovegrass																																
Eragrostis pilosa	Soft Lovegrass																																
Eragrostis trachycarpa	A Lovegrass																																
Eucalyptus blakelyi	Blakely's Red Gum																																
Eucalyptus bridgesiana	Apple Box																													0.1	1		
Eucalyptus dalrympleana	Mountain Gum	3	1																														
Eucalyptus dives	Broad-leaved Peppermint	15	1	2	1	0.5	1									3	1					15	1					1	1	1	1	3	1
Eucalyptus elata	River Peppermint					0.2	1																										
Eucalyptus goniocalyx	Bundy					0.1	1													0.2	1												

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus macrorhyncha	Red Stringybark															5	1	20	1	0.5	1	12	1			1	1			0.5	1	10	1
Eucalyptus mannifera	Brittle Gum			3	1											18	1	10	1			5	1					0.1	1				
Eucalyptus melliodora	Yellow Box																																
Eucalyptus pauciflora	White Sally																																
Eucalyptus radiata	Narrow-leaved Peppermint																																
Eucalyptus rossii	Inland Scribbly Gum																															10	1
Eucalyptus sieberi	Silvertop Ash	20	1	30	1																											5	1
Eucalyptus stellulata	Black Sally																							0.5	1								
Eucalyptus viminalis	Ribbon Gum																																
Euchiton involucratus	Star Cudweed																											0.1	1				
Euchiton japonicus	-					0.5	1									0.1	1			0.1	1			0.1	1								
Euchiton sp.	A Cudweed									0.2	1																						
Euchiton sphaericus	Star Cudweed					0.1	1	0.2	1							0.1	1					0.1	1					0.1	1	0.1	1		
Euphorbia drummondii	Caustic Weed																																
Festuca elatior	Tall Fescue									0.2	1																						
Fimbristylis sp.	-	2	1											0.1	1																		
Galium sp.	-																																
Gamochaeta americana	Cudweed							0.2	1											0.1	1							0.1	1				
Geranium homeanum	-																																
Geranium neglectum	-																																

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Geranium retrorsum	Cranesbill Geranium																																
Geranium solanderi	Native Geranium													0.1	1													0.1	1				
Glycine tabacina	Variable Glycine																																
Gompholobium aspalathoides	-																																
Gonocarpus tetragynus	Poverty Raspwort	1	1	0.1	1	0.1	1	0.2	1	0.1	1	0.5	1	0.5	1			0.1	1	0.1	1	0.1	1	0.2	1	0.1	1	0.1	1	0.1	1		
Goodenia hederacea	Ivy Goodenia			0.5	1	0.8	1	0.1	1			0.1	1			0.3	1	1	1	5	1	1	1	0.1	1	0.5	1			0.2	1	0.2	1
Goodenia hederacea subsp. *hederacea*	-																											0.1	1				
Hardenbergia violacea	False Sarsaparilla			0.3	1											0.3	1	0.2	1			0.1	1									0.1	1
Hemarthria uncinata	Matgrass																																
Hibbertia obtusifolia	Hoary Guinea Flower	0.2	1	0.1	1	0.5	1							0.1	1	0.1	1	0.1	1			0.2	1	0.5	1	0.1	1	0.1	1	0.1	1	0.5	1
Hibbertia riparia	-																																
Holcus lanatus	Yorkshire Fog	0.1	1					0.1	1	0.1	1	0.2	1	0.1	1							0.2	1							0.1	1		
Hordeum leporinum	Barley Grass																																
Hordeum vulgare	Barley																																
Hovea heterophylla	-																											0.1	1				
Hovea lanceolata	-			0.1	1	0.1	1											0.1	1			0.1	1	0.1	1								
Hovea linearis	-	0.1	1																							0.1	1					0.1	1
Hydrocotyle laxiflora	Stinking Pennywort	0.1	1			0.1	1															0.1	1					0.1	1				
Hypericum gramineum	Small St John's Wort	0.1	1					0.1	1	0.1	1	0.1	1	0.2	1					0.1	1	0.1	1	0.1	1			0.1	1	0.1	1		

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hypericum perforatum	St. Johns Wort																																
Hypochaeris glabra	Smooth Catsear																															0.1	1
Hypochaeris radicata	Catsear	0.2	1			0.5	1	0.5	1	0.5	1	0.2	1	0.2	1	2	1	0.1	1	0.2	1	1	1	0.1	1	0.1	1	0.1	1	0.1	1		
Isotoma fluviatilis	Swamp Isotome																																
Juncus australis	Rush																																
Juncus capitatus	-																																
Juncus filicaulis	-																											0.1	1	0.1	1		
Juncus homalocaulis	-																																
Juncus radula	-																																
Juncus sp.	A Rush							0.2	1	0.2	1			0.1	1																		
Juncus usitatus	-					0.2	1																										
Leptomeria acida	Sour Currant Bush																																
Leptorhynchos squamatus	Scaly Buttons													0.1	1																		
Leptorhynchos squamatus subsp. *squamatus*	-																			0.2	1			0.1	1								
Leucochrysum albicans var. *tricolor*	Hoary Sunray											0.1	1																				
Leucopogon fletcheri subsp. *brevisepalus*	-																											0.1	1				
Leucopogon sp.	A Beard-heath																							0.1	1								
Linum marginale	Native Flax															0.1	1																
Lissanthe strigosa	Peach Heath			0.1	1									0.2	1			0.2	1	0.1	1	0.1	1	0.1	1	0.1	1						

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lobelia pedunculata	Matted Pratia	2	1																														
Lolium perenne	Perennial Ryegrass																																
Lomandra bracteata	Mat-rush																																
Lomandra filiformis	Wattle Matt-rush																									0.1	1						
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush	0.5	1	0.5	1	0.5	1									0.1	1	0.2	1					0.2	1			1	1	1	1	1	1
Lomandra longifolia	Spiny-headed Mat-rush																													0.1	1	0.1	1
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush	0.1	1	0.2	1	0.1	1	0.1	1					0.1	1	0.1	1	0.1	1	0.2	1							0.1	1				
Luzula densiflora	Woodrush																			0.1	1			0.1	1								
Luzula sp.	-																											0.1	1	0.1	1		
Lysimachia arvensis	Scarlet Pimpernel					0.1	1																										
Lysimachia japonica	-																																
Lythrum hyssopifolia	Hyssop Loosestrife																																
Malva parviflora	Small-flowered Mallow																																
Medicago minima	Woolly Burr Medic																																
Melichrus urceolatus	Urn Heath	0.1	1			0.1	1							0.1	1			0.2	1	0.1	1	0.1	1	10	1	0.1	1	0.5	1	0.5	1		
Microlaena stipoides	Weeping Grass	0.5	1			0.1	1	5	1	80	1	0.1	1	0.1	1											0.2	1						
Microlaena stipoides var. *stipoides*	Weeping Grass																													0.5	1		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Microtis rara	Scented Onion Orchid																			0.1	1			0.1	1								
Microtis sp.	-																											0.1	1	0.1	1		
Microtis unifolia	Common Onion Orchid											0.1	1													0.1	1						
Modiola caroliniana	Red-flowered Mallow																																
Nassella neesiana	Chilean Needle Grass																			0.1	1												
Nassella trichotoma	Serrated Tussock																																
Olearia microphylla	-																													0.1	1		
Onopordum acanthium	Scotch Thistle																																
Opercularia diphylla	Stinkweed																							0.1	1								
Opercularia hispida	Hairy Stinkweed	0.1	1											0.1	1											0.1	1						
Oreomyrrhis eriopoda	Australian Carraway																																
Oreomyrrhis sp.	-																											0.1	1				
Oxalis corniculata	Creeping Oxalis																																
Oxalis perennans	-							0.1	1			0.1	1	0.1	1	0.1	1					0.1	1			0.1	1	0.1	1	0.1	1		
Oxalis sp.	-																					0.1	1										
Panicum effusum	Hairy Panic							0.5	1	0.1	1																			0.2	1		
Panicum simile	Two-colour Panic															0.2	1			0.5	1	0.1	1										
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow									0.1	1					0.1	1					0.1	1										

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Paspalum dilatatum	Paspalum									0.1	1																						
Persoonia linearis	Narrow-leaved Geebung	0.2	1	0.1	1																											1	1
Petrorhagia dubia	-															0.1	1					0.1	1	0.1	1								
Petrorhagia nanteuilii	Proliferous Pink					0.1	1																										
Petrorhagia prolifera	Proliferous Pink																									0.1	1						
Phalaris aquatica	Phalaris																																
Phleum pratense	Timothy																																
Phytolacca octandra	Inkweed																					0.1	1										
Pimelea curviflora	Rice Flower																											0.1	1				
Pimelea curviflora var. *sericea*	-																			0.2	1			0.1	1								
Pimelea linifolia	Slender Rice Flower																																
Plantago lanceolata	Lamb's Tongues											0.2	1	0.1	1	0.1	1			0.2	1												
Plantago varia	-																											0.1	1				
Platysace lanceolata	Shrubby Platysace																															0.5	1
Poa labillardierei var. *labillardierei*	Tussock											10	1	1	1															0.1	1		
Poa sieberiana	Snowgrass	1	1	5	1	1	1	50	1	0.2	1	0.5	1	0.1	1	0.2	1	10	1			1	1	0.2	1	15	1	15	1	0.5	1		
Poaceae indeterminate	Grasses, reeds and bamboos																																
Podolepis jaceoides	Showy Copper-wire Daisy																					0.1	1										

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera					0.1	1									0.1	1	0.1	1			0.1	1										
Prunella vulgaris	Self-heal																																
Pteridium esculentum	Bracken	0.5	1			0.2	1			0.1	1																						
Pultenaea microphylla	A Bush Pea																													0.2	1		
Pultenaea subspicata	Low Bush-pea																	0.5	1			0.1	1										
Quercus robur	English Oak																																
Ranunculus lappaceus	Common Buttercup																											0.1	1				
Rhytidosporum procumbens	-			0.1	1																												
Rosa rubiginosa	Sweet Briar																																
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex	0.1	1	0.1	1											0.1	1					0.1	1										
Rumex acetosella	Sheep Sorrel					0.1	1	0.5	1	0.2	1	0.1	1			5	1					1	1			0.1	1						
Rumex brownii	Swamp Dock													0.1	1											0.1	1						
Rumex crispus	Curled Dock																																
Rumex obtusifolius	Broadleaf Dock																																
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass			45	1	5	1	2	1	0.2	1	0.2	1			3	1	45	1	0.5	1	20	1									0.5	1
Rytidosperma racemosum	Wallaby Grass					15	1									25	1			0.5	1	2	1	0.1	1								

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma setaceum	Small-flowered Wallaby-grass							10	1	0.2	1																						
Rytidosperma sp.	-	0.1	1							5	1	0.2	1					0.1	1							0.5	1	0.5	1	1.5	2		
Schoenus apogon	Fluke Bogrush					2	1					0.5	1	1	1					1	1			1	1	0.1	1	0.5	1	0.2	1		
Scleranthus biflorus	Two-flowered Knawel							0.1	1			0.1	1	0.2	1																		
Scleranthus fasciculatus	-																											0.1	1				
Senecio madagascariensis	Fireweed																																
Senecio microbasis	-																																
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed																																
Senecio sp.	Groundsel, Fireweed																																
Setaria parviflora	-																																
Silybum marianum	Variegated Thistle																																
Solanum nigrum	Black-berry Nightshade															0.1	1																
Solenogyne dominii	-																													0.1	1		
Solenogyne gunnii	Solengyne																											0.1	1				
Sonchus asper	Prickly Sowthistle															0.1	1					0.2	1										
Sonchus oleraceus	Common Sowthistle																																
Sporobolus creber	Slender Rat's Tail Grass																																

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Stellaria pungens	Prickly Starwort																					1	1										
Stylidium graminifolium	Grass Triggerplant																											0.1	1	0.1	1		
Stylidium lineare	Narrow-leaved Triggerplant			0.1	1													0.1	1														
Stylidium sp.	-																																
Themeda triandra	Kangaroo Grass					0.2	1	0.1	1			10	1	90	1					45	1	0.1	1	85	1	80	1	30	1	25	1		
Tolpis barbata	Yellow Hawkweed																			0.1	1												
Tolpis umbellata	Yellow Hawkweed																													0.1	1		
Tricoryne elatior	Yellow Autumn-lily																																
Trifolium arvense	Haresfoot Clover																																
Trifolium campestre	Hop Clover																																
Trifolium repens	White Clover					0.1	1							0.1	1																		
Trifolium subterraneum	Subterranean Clover																																
Triptilodiscus pygmaeus	Common Sunray					0.1	1					0.1	1							0.1	1					0.1	1						
Verbascum virgatum	Twiggy Mullein																																
Veronica plebeia	Trailing Speedwell					0.1	1	0.1	1													0.1	1										
Viola betonicifolia	Native Violet																											0.1	1				
Viola sp.	-																																
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque							0.1	1	0.1	1	0.1	1																				

Scientific Name	Common Name	BY035E53		BY-037A		BY-037B		BY0382AE		BY038CA3		BY045261		BY045BFA		BY-048A		BY-049A		BY-049B		BY-049C		BY-049E		BY0529A5		BY052BA4		BY052F82		BY052FAF	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Vulpia myuros	Rat's Tail Fescue															0.1	1					0.1	1	0.1	1								
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell					0.1	1					0.1	1			0.1	1	0.1	1	0.1	1	0.1	1			0.1	1					0.1	1
Wahlenbergia multicaulis	Tadgell's Bluebell																													0.1	1		
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell																																
Wurmbea dioica subsp. *dioica*	Early Nancy																																
Xylomelum pyriforme	Woody Pear																																
Xyris sp.	-																																

Table A5- 6: Crookwell BAM floristic data

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																																
Acacia genistifolia	Early Wattle																																
Acacia gunnii	Ploughshare Wattle																																
Acacia melanoxylon	Blackwood	5	1	0.2	1																												
Acacia penninervis	Mountain Hickory																																
Acacia sp.	Wattle																																
Acacia terminalis	Sunshine Wattle	0.2	1	0.1	1																												
Acacia verniciflua	Varnish Wattle																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acaena ovina	Acaena																									0.1	1						
Agrostis capillaris	Browntop Bent																					45	1	5	1	5	1			20	1	80	1
Aira caryophyllea	Silvery Hairgrass									0.1	1	5	1																				
Aira cupaniana	Silvery Hairgrass																																
Aira elegantissima	Delicate Hairgrass																																
Ajuga australis	Austral Bugle																																
Alternanthera denticulata	Lesser Joyweed																																
Amphibromus nervosus	Swamp Wallaby Grass																																
Amyema sp.	Mistletoe																																
Anisopogon avenaceus	Oat Speargrass																																
Anthoxanthum odoratum	Sweet Vernal Grass							0.1	1	1	1	0.1	1									1	1	2	1	5	1	10	1	30	1	10	1
Aristida jerichoensis	Jericho Wiregrass																																
Aristida jerichoensis var. *jerichoensis*	Jericho Wiregrass																																
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass																																
Aristida vagans	Threeawn Speargrass																																
Arthropodium milleflorum	Pale Vanilla-lily																																
Asperula ambleia	Stiff Woodruff																																
Asperula conferta	Common Woodruff																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Austrostipa bigeniculata	Yanganbil															5	1	5	1														
Austrostipa scabra	Speargrass																											0.2	1				
Austrostipa sp.	A Speargrass							3	1																								
Avena barbata	Bearded Oats																																
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Billardiera scandens	Hairy Apple Berry																																
Bossiaea buxifolia	-																																
Bothriochloa bladhii subsp. *bladhii*	Forest Bluegrass																																
Bothriochloa macra	Red Grass																																
Brachyloma daphnoides	Daphne Heath	0.2	1	0.1	1																												
Brachyscome dentata	-																											0.1	1				
Brassica rapa	-																																
Briza maxima	Quaking Grass																																
Briza minor	Shivery Grass																																
Briza subaristata	-																																
Bromus catharticus	Praire Grass																																
Bromus hordeaceus	Soft Brome															25	1	1	1	15	1												
Bulbine bulbosa	Bulbine Lily																																
Calochilus sp.	-																																
Calotis lappulacea	Yellow Burr-daisy																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Carduus pycnocephalus	Slender Thistle																	0.1	1														
Carex gaudichaudiana	-													40	1																		
Carex inversa	Knob Sedge																											0.1	1	0.1	1		
Carex polyantha	-																																
Carthamus lanatus	Saffron Thistle																																
Cassinia aculeata	Dolly Bush							0.2	1																			0.2	1				
Cassinia arcuata	Sifton Bush					0.1	1																	0.1	1	0.1	1						
Cassinia laevis	Cough Bush	0.2	1																														
Cassinia longifolia	-																																
Cassinia sp.	-																																
Cenchrus ciliaris	Buffel Grass																																
Centaurium erythraea	Common Centaury									0.1	1	0.1	1																				
Centaurium tenuiflorum	Branched Centaury, Slender Centaury																																
Centella asiatica	Indian Pennywort																																
Cheilanthes sieberi	Rock Fern																																
Chiloglottis reflexa	-																																
Chloris truncata	Windmill Grass																																
Chondrilla juncea	Skeleton Weed															0.1	1																
Chrysocephalum apiculatum	Common Everlasting																																
Cirsium arvense	Perennial Thistle																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cirsium vulgare	Spear Thistle					0.1	1							0.1	1																		
Convolvulus angustissimus	-																																
Convolvulus erubescens	Pink Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane																							0.1	1	0.1	1	0.1	1				
Cotula australis	Common Cotula																																
Crataegus monogyna	Hawthorn																									2	1						
Cryptandra amara	Bitter Cryptandra																																
Cymbonotus lawsonianus	Bear's Ear																																
Cynodon dactylon	Common Couch							0.1	1																								
Cynosurus cristatus	Crested Dog's Tail																											0.1	1				
Cynosurus echinatus	Rough Dog's Tail																									0.1	1						
Cyperus eragrostis	Umbrella Sedge																																
Cyperus sp.	-																																
Dactylis glomerata	Cocksfoot							0.1	1	10	1							0.5	1							1	1			5	1	5	1
Daucus glochidiatus	Native Carrot																																
Daviesia latifolia	Bitter-pea																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil																																
Dianella caerulea	Blue Flax-lily	0.1	1	0.1	1																												
Dianella longifolia	Blueberry Lily																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dianella revoluta	Blueberry Lily																																
Dichelachne inaequiglumis	-																																
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne parva	-																																
Dichelachne rara	-																																
Dichopogon fimbriatus	Nodding Chocolate Lily																																
Dichopogon strictus	Chocolate Lily																																
Dillwynia retorta	-	0.1	1	0.1	1																												
Drosera spatulata	-																																
Dysphania pumilio	Small Crumbweed					1	1																										
Echium plantagineum	Patterson's Curse																																
Einadia hastata	Berry Saltbush																																
Einadia nutans	Climbing Saltbush																																
Eleusine indica	Crowsfoot Grass																																
Eleusine tristachya	Goose Grass																			1	1			0.1	1								
Elymus scaber	Common Wheatgrass																	0.1	1							0.1	1						
Epilobium billardierianum	-																			0.1	1					0.1	1						
Eragrostis brownii	Brown's Lovegrass									0.1	1	0.2	1																				

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eragrostis curvula	African Lovegrass																																
Eragrostis parviflora	Weeping Lovegrass																													0.1	1		
Eragrostis pilosa	Soft Lovegrass																							0.5	1								
Eragrostis trachycarpa	A Lovegrass																			0.1	1												
Eucalyptus blakelyi	Blakely's Red Gum																																
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus dalrympleana	Mountain Gum																																
Eucalyptus dives	Broad-leaved Peppermint																									5	1	30	1			10	1
Eucalyptus elata	River Peppermint																																
Eucalyptus goniocalyx	Bundy																									5	1						
Eucalyptus macrorhyncha	Red Stringybark	1	1			3	1	10	1																								
Eucalyptus mannifera	Brittle Gum					8	1																					5	1				
Eucalyptus melliodora	Yellow Box							5	1																								
Eucalyptus pauciflora	White Sally																																
Eucalyptus radiata	Narrow-leaved Peppermint																																
Eucalyptus rossii	Inland Scribbly Gum	10	1	8	1	20	1	4	1																								
Eucalyptus sieberi	Silvertop Ash	15	1	20	1			3	1																								
Eucalyptus stellulata	Black Sally																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus viminalis	Ribbon Gum																									5	1						
Euchiton involucratus	Star Cudweed																																
Euchiton japonicus	-									0.1	1	0.1	1																				
Euchiton sp.	A Cudweed																																
Euchiton sphaericus	Star Cudweed					0.1	1	0.1	1	0.1	1	0.1	1											0.1	1								
Euphorbia drummondii	Caustic Weed																																
Festuca elatior	Tall Fescue																															0.2	1
Fimbristylis sp.	-																																
Galium sp.	-																									0.1	1						
Gamochaeta americana	Cudweed																																
Geranium homeanum	-																																
Geranium neglectum	-																																
Geranium retrorsum	Cranesbill Geranium																									0.1	1						
Geranium solanderi	Native Geranium							0.2	1																								
Glycine tabacina	Variable Glycine																																
Gompholobium aspalathoides	-																																
Gonocarpus tetragynus	Poverty Raspwort									0.5	1																	0.5	1				
Goodenia hederacea	Ivy Goodenia	0.1	1																														
Goodenia hederacea subsp. *hederacea*	-																																
Hardenbergia violacea	False Sarsaparilla																											0.1	1				

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hemarthria uncinata	Matgrass																									20	1						
Hibbertia obtusifolia	Hoary Guinea Flower	0.2	1	0.1	1																							0.1	1				
Hibbertia riparia	-	0.1	1																														
Holcus lanatus	Yorkshire Fog					0.1	1	0.5	1	0.2	1	1	1	5	1							1	1	0.1	1	1	1	0.1	1	2	1	0.2	1
Hordeum leporinum	Barley Grass																			10	1												
Hordeum vulgare	Barley					0.1	1																										
Hovea heterophylla	-																																
Hovea lanceolata	-			0.1	1																												
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort																																
Hypericum gramineum	Small St John's Wort									0.1	1																						
Hypericum perforatum	St. Johns Wort																																
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear					0.1	1	0.1	1	3	1	2	1			0.1	1	0.1	1	0.1	1	0.1	1	10	1	1	1	1	1	0.2	1		
Isotoma fluviatilis	Swamp Isotome																																
Juncus australis	Rush							1	1											0.6	1	0.1	1										
Juncus capitatus	-																																
Juncus filicaulis	-																									0.1	1						
Juncus homalocaulis	-																			0.1	1												
Juncus radula	-																																
Juncus sp.	A Rush																											0.1	1				

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Juncus usitatus	-													0.5	1															0.1	1		
Leptomeria acida	Sour Currant Bush	0.1	1																														
Leptorhynchos squamatus	Scaly Buttons																																
Leptorhynchos squamatus subsp. *squamatus*	-																																
Leucochrysum albicans var. *tricolor*	Hoary Sunray																																
Leucopogon fletcheri subsp. *brevisepalus*	-																																
Leucopogon sp.	A Beard-heath																																
Linum marginale	Native Flax					0.1	1																										
Lissanthe strigosa	Peach Heath	0.1	1	0.1	1																												
Lobelia pedunculata	Matted Pratia																																
Lolium perenne	Perennial Ryegrass									0.1	1					20	1	40	1	10	1												
Lomandra bracteata	Mat-rush																																
Lomandra filiformis	Wattle Matt-rush																											0.1	1				
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush	0.2	1	0.1	1	0.5	1																										
Lomandra longifolia	Spiny-headed Mat-rush																																
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush	0.5	1	0.2	1																							0.1	1				
Luzula densiflora	Woodrush																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Luzula sp.	-																																
Lysimachia arvensis	Scarlet Pimpernel																																
Lysimachia japonica	-																									0.1	1						
Lythrum hyssopifolia	Hyssop Loosestrife																													0.1	1		
Malva parviflora	Small-flowered Mallow																																
Medicago minima	Woolly Burr Medic																													0.1	1		
Melichrus urceolatus	Urn Heath																																
Microlaena stipoides	Weeping Grass			0.1	1			30	1	3	1	70	1									1	1	5	1			35	1	35	1	5	1
Microlaena stipoides var. *stipoides*	Weeping Grass																																
Microtis rara	Scented Onion Orchid																																
Microtis sp.	-																																
Microtis unifolia	Common Onion Orchid																																
Modiola caroliniana	Red-flowered Mallow																							0.1	1								
Nassella neesiana	Chilean Needle Grass																																
Nassella trichotoma	Serrated Tussock							0.1	1							0.1	1	1	1														
Olearia microphylla	-																																
Onopordum acanthium	Scotch Thistle															0.2	1	0.3	1														

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Opercularia diphylla	Stinkweed																																
Opercularia hispida	Hairy Stinkweed																																
Oreomyrrhis eriopoda	Australian Carraway																																
Oreomyrrhis sp.	-																																
Oxalis corniculata	Creeping Oxalis							0.5	1																								
Oxalis perennans	-															0.1	1	0.1	1									0.1	1	0.1	1		
Oxalis sp.	-																																
Panicum effusum	Hairy Panic																							1	1								
Panicum simile	Two-colour Panic									0.1	1																						
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow					0.1	1	0.1	1																								
Paspalum dilatatum	Paspalum																													25	1		
Persoonia linearis	Narrow-leaved Geebung	1	1																														
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink																																
Petrorhagia prolifera	Proliferous Pink																																
Phalaris aquatica	Phalaris									5	1			15	1	40	1	30	1	30	1	30	1			1	1			0.1	1	0.1	1
Phleum pratense	Timothy																																
Phytolacca octandra	Inkweed					40	1	0.1	1																								

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pimelea curviflora	Rice Flower																																
Pimelea curviflora var. *sericea*	-																																
Pimelea linifolia	Slender Rice Flower			0.1	1																												
Plantago lanceolata	Lamb's Tongues																													0.1	1		
Plantago varia	-																																
Platysace lanceolata	Shrubby Platysace																																
Poa labillardierei var. *labillardierei*	Tussock													35	1									0.5	1								
Poa sieberiana	Snowgrass			0.5	1	0.1	1																					25	1				
Poaceae indeterminate	Grasses, reeds and bamboos															1	1	5	1														
Podolepis jaceoides	Showy Copper-wire Daisy																																
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera																											0.1	1				
Prunella vulgaris	Self-heal																									1	1						
Pteridium esculentum	Bracken							1	1																								
Pultenaea microphylla	A Bush Pea																																
Pultenaea subspicata	Low Bush-pea																																
Quercus robur	English Oak																																
Ranunculus lappaceus	Common Buttercup																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rhytidosporum procumbens	-																																
Rosa rubiginosa	Sweet Briar																																
Rubus anglocandicans	Blackberry																									25	1						
Rubus fruticosus sp. *agg.*	Blackberry complex																											1.5	1				
Rumex acetosella	Sheep Sorrel					30	1	80	1	0.1	1	0.2	1			5	1	1	1	1	1	0.1	1	1	1			1	1	0.1	1		
Rumex brownii	Swamp Dock																	0.1	1							0.1	1						
Rumex crispus	Curled Dock													1	1																		
Rumex obtusifolius	Broadleaf Dock																																
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass	1	1	5	1	0.5	1																					1	1				
Rytidosperma racemosum	Wallaby Grass			0.1	1					50	1	15	1																				
Rytidosperma setaceum	Small-flowered Wallaby-grass																											0.1	1				
Rytidosperma sp.	-							3	1									1	1			1	1	50	1			0.5	1			0.1	1
Schoenus apogon	Fluke Bogrush											0.1	1																				
Scleranthus biflorus	Two-flowered Knawel																																
Scleranthus fasciculatus	-																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Senecio madagascariensis	Fireweed																									0.1	1						
Senecio microbasis	-																																
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed																																
Senecio sp.	Groundsel, Fireweed																											0.1	1				
Setaria parviflora	-											0.5	1									1	1	0.1	1								
Silybum marianum	Variegated Thistle																																
Solanum nigrum	Black-berry Nightshade					0.1	1																										
Solenogyne dominii	-																																
Solenogyne gunnii	Solengyne																																
Sonchus asper	Prickly Sowthistle																																
Sonchus oleraceus	Common Sowthistle																																
Sporobolus creber	Slender Rat's Tail Grass																					0.1	1										
Stellaria pungens	Prickly Starwort																																
Stylidium graminifolium	Grass Triggerplant																																
Stylidium lineare	Narrow-leaved Triggerplant																																
Stylidium sp.	-																																
Themeda triandra	Kangaroo Grass									15	1															25	1						

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Tolpis barbata	Yellow Hawkweed																																
Tolpis umbellata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																																
Trifolium arvense	Haresfoot Clover																																
Trifolium campestre	Hop Clover																																
Trifolium repens	White Clover							0.1	1	5	1	5	1					0.5	1	1	1					1	1					0.2	1
Trifolium subterraneum	Subterranean Clover															0.5	1							10	1								
Triptilodiscus pygmaeus	Common Sunray																																
Verbascum virgatum	Twiggy Mullein																																
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																																
Viola sp.	-																																
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																											0.5	1				
Vulpia myuros	Rat's Tail Fescue											0.1	1																				
Wahlenbergia communis	Tufted Bluebell																									0.1	1						
Wahlenbergia gracilis	Sprawling Bluebell											0.1	1																				
Wahlenbergia multicaulis	Tadgell's Bluebell																																
Wahlenbergia sp.	Bluebell																																

Scientific Name	Common Name	BY-054A		BY-054B		BY056C93		BY0573c9		BY-057A		BY-057B		BY-057C		BY0651CB		BY065325		BY066A52		BY0763CA		BY076B8A		BY076ED0		BY083EC7		BY087909		BY0933F7	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Wahlenbergia stricta	Tall Bluebell																																
Wurmbea dioica subsp. *dioica*	Early Nancy																																
Xylomelum pyriforme	Woody Pear	0.2	1																														
Xyris sp.	-							0.1	1																								

Table A5- 7: Crookwell BAM floristic data

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Acacia dealbata	Silver Wattle					0.2	1
Acacia genistifolia	Early Wattle						
Acacia gunnii	Ploughshare Wattle						
Acacia melanoxylon	Blackwood						
Acacia penninervis	Mountain Hickory						
Acacia sp.	Wattle						
Acacia terminalis	Sunshine Wattle						
Acacia verniciflua	Varnish Wattle						
Acaena ovina	Acaena					0.1	1
Agrostis capillaris	Browntop Bent						
Aira caryophyllea	Silvery Hairgrass	0.1	1			0.2	1
Aira cupaniana	Silvery Hairgrass					0.1	1
Aira elegantissima	Delicate Hairgrass						
Ajuga australis	Austral Bugle						
Alternanthera denticulata	Lesser Joyweed						
Amphibromus nervosus	Swamp Wallaby Grass						
Amyema sp.	Mistletoe					0.5	1
Anisopogon avenaceus	Oat Speargrass						
Anthoxanthum odoratum	Sweet Vernal Grass	0.5	1				
Aristida jerichoensis	Jericho Wiregrass						
Aristida jerichoensis var. *jerichoensis*	Jericho Wiregrass						
Aristida personata	-					3	1
Aristida ramosa	Purple Wiregrass						
Aristida vagans	Threeawn Speargrass						

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Arthropodium milleflorum	Pale Vanilla-lily						
Asperula ambleia	Stiff Woodruff						
Asperula conferta	Common Woodruff						
Austrostipa bigeniculata	Yanganbil						
Austrostipa scabra	Speargrass						
Austrostipa sp.	A Speargrass						
Avena barbata	Bearded Oats						
Axonopus fissifolius	Narrow-leafed Carpet Grass						
Billardiera scandens	Hairy Apple Berry						
Bossiaea buxifolia	-						
Bothriochloa bladhii subsp. *bladhii*	Forest Bluegrass						
Bothriochloa macra	Red Grass						
Brachyloma daphnoides	Daphne Heath						
Brachyscome dentata	-						
Brassica rapa	--			0.3	1		
Briza maxima	Quaking Grass					4	1
Briza minor	Shivery Grass						
Briza subaristata						0.1	1
Bromus catharticus	Praire Grass						
Bromus hordeaceus	Soft Brome						
Bulbine bulbosa	Bulbine Lily						
Calochilus sp.	-						
Calotis lappulacea	Yellow Burr-daisy						
Carduus pycnocephalus	Slender Thistle						
Carex gaudichaudiana	-						
Carex inversa	Knob Sedge	0.2	1				
Carex polyantha	-						
Carthamus lanatus	Saffron Thistle						
Cassinia aculeata	Dolly Bush						
Cassinia arcuata	Sifton Bush					0.1	1
Cassinia laevis	Cough Bush						
Cassinia longifolia	-						
Cassinia sp.	-						
Cenchrus ciliaris	Buffel Grass						
Centaurium erythraea	Common Centaury					0.1	1
Centaurium tenuiflorum	Branched Centaury, SlenderCentaury						
Centella asiatica	Indian Pennywort						

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Cheilanthes sieberi	Rock Fern					0.1	1
Chiloglottis reflexa	-						
Chloris truncata	Windmill Grass						
Chondrilla juncea	Skeleton Weed						
Chrysocephalum apiculatum	Common Everlasting						
Cirsium arvense	Perennial Thistle			0.5	1		
Cirsium vulgare	Spear Thistle					0.1	1
Convolvulus angustissimus	-						
Convolvulus erubescens	Pink Bindweed						
Conyza bonariensis	Flaxleaf Fleabane					0.1	1
Cotula australis	Common Cotula						
Crataegus monogyna	Hawthorn						
Cryptandra amara	Bitter Cryptandra						
Cymbonotus lawsonianus	Bear's Ear						
Cynodon dactylon	Common Couch						
Cynosurus cristatus	Crested Dog's Tail	0.2	1				
Cynosurus echinatus	Rough Dog's Tail					25	1
Cyperus eragrostis	Umbrella Sedge						
Cyperus sp.	-						
Dactylis glomerata	Cocksfoot	0.1	1	80	1	3	1
Daucus glochidiatus	Native Carrot						
Daviesia latifolia	Bitter-pea						
Desmodium gunnii	Slender Tick-trefoil						
Desmodium varians	Slender Tick-trefoil					0.1	1
Dianella caerulea	Blue Flax-lily						
Dianella longifolia	Blueberry Lily						
Dianella revoluta	Blueberry Lily						
Dichelachne inaequiglumis	-						
Dichelachne micrantha	Shorthair Plumegrass						
Dichelachne parva	-						
Dichelachne rara	-						
Dichopogon fimbriatus	Nodding Chocolate Lily						
Dichopogon strictus	Chocolate Lily						
Dillwynia retorta	-						
Drosera spatulata	-						
Dysphania pumilio	Small Crumbweed						
Echium plantagineum	Patterson's Curse						

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Einadia hastata	Berry Saltbush						
Einadia nutans	Climbing Saltbush						
Eleusine indica	Crowsfoot Grass						
Eleusine tristachya	Goose Grass						
Elymus scaber	Common Wheatgrass	0.2	1				
Epilobium billardierianum	-						
Eragrostis brownii	Brown's Lovegrass						
Eragrostis curvula	African Lovegrass						
Eragrostis parviflora	Weeping Lovegrass						
Eragrostis pilosa	Soft Lovegrass						
Eragrostis trachycarpa	A Lovegrass						
Eucalyptus blakelyi	Blakely's Red Gum					20	1
Eucalyptus bridgesiana	Apple Box						
Eucalyptus dalrympleana	Mountain Gum						
Eucalyptus dives	Broad-leaved Peppermint						
Eucalyptus elata	River Peppermint						
Eucalyptus goniocalyx	Bundy						
Eucalyptus macrorhyncha	Red Stringybark						
Eucalyptus mannifera	Brittle Gum						
Eucalyptus melliodora	Yellow Box			40	1	1	1
Eucalyptus pauciflora	White Sally						
Eucalyptus radiata	Narrow-leaved Peppermint						
Eucalyptus rossii	Inland Scribbly Gum						
Eucalyptus sieberi	Silvertop Ash						
Eucalyptus stellulata	Black Sally						
Eucalyptus viminalis	Ribbon Gum						
Euchiton involucratus	Star Cudweed						
Euchiton japonicus	-					0.1	1
Euchiton sp.	A Cudweed						
Euchiton sphaericus	Star Cudweed					0.1	1
Euphorbia drummondii	Caustic Weed						
Festuca elatior	Tall Fescue						
Fimbristylis sp.	-						
Galium sp.	-						
Gamochaeta americana	Cudweed					0.1	1
Geranium homeanum	-						
Geranium neglectum	-						

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Geranium retrorsum	Cranesbill Geranium						
Geranium solanderi	Native Geranium			0.1	1		
Glycine tabacina	Variable Glycine						
Gompholobium aspalathoides	-						
Gonocarpus tetragynus	Poverty Raspwort					0.1	1
Goodenia hederacea	Ivy Goodenia						
Goodenia hederacea subsp. *hederacea*	-						
Hardenbergia violacea	False Sarsaparilla						
Hemarthria uncinata	Matgrass						
Hibbertia obtusifolia	Hoary Guinea Flower						
Hibbertia riparia	-						
Holcus lanatus	Yorkshire Fog	0.1	1			0.1	1
Hordeum leporinum	Barley Grass						
Hordeum vulgare	Barley			0.2	1		
Hovea heterophylla	-						
Hovea lanceolata	-						
Hovea linearis	-						
Hydrocotyle laxiflora	Stinking Pennywort					0.1	1
Hypericum gramineum	Small St John's Wort					0.1	1
Hypericum perforatum	St. Johns Wort						
Hypochaeris glabra	Smooth Catsear						
Hypochaeris radicata	Catsear	1	1			0.5	1
Isotoma fluviatilis	Swamp Isotome						
Juncus australis	Rush						
Juncus capitatus	-						
Juncus filicaulis	-						
Juncus homalocaulis	-					0.1	1
Juncus radula	-						
Juncus sp.	A Rush						
Juncus usitatus	-					0.1	1
Leptomeria acida	Sour Currant Bush						
Leptorhynchos squamatus	Scaly Buttons						
Leptorhynchos squamatus subsp. *squamatus*	-						
Leucochrysum albicans var. *tricolor*	Hoary Sunray						
Leucopogon fletcheri subsp. *brevisepalus*	-						
Leucopogon sp.	A Beard-heath						
Linum marginale	Native Flax						

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Lissanthe strigosa	Peach Heath						
Lobelia pedunculata	Matted Pratia						
Lolium perenne	Perennial Ryegrass			0.5	1		
Lomandra bracteata	Mat-rush						
Lomandra filiformis	Wattle Matt-rush	0.1	1				
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush						
Lomandra longifolia	Spiny-headed Mat-rush						
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush						
Luzula densiflora	Woodrush						
Luzula sp.	-						
Lysimachia arvensis	Scarlet Pimpernel						
Lysimachia japonica	-						
Lythrum hyssopifolia	Hyssop Loosestrife			0.1	1		
Malva parviflora	Small-flowered Mallow						
Medicago minima	Woolly Burr Medic						
Melichrus urceolatus	Urn Heath						
Microlaena stipoides	Weeping Grass	70	1			10	1
Microlaena stipoides var. *stipoides*	Weeping Grass						
Microtis rara	Scented Onion Orchid						
Microtis sp.	-						
Microtis unifolia	Common Onion Orchid						
Modiola caroliniana	Red-flowered Mallow			0.1	1		
Nassella neesiana	Chilean Needle Grass						
Nassella trichotoma	Serrated Tussock						
Olearia microphylla	-						
Onopordum acanthium	Scotch Thistle						
Opercularia diphylla	Stinkweed					0.1	1
Opercularia hispida	Hairy Stinkweed						
Oreomyrrhis eriopoda	Australian Carraway						
Oreomyrrhis sp.	-						
Oxalis corniculata	Creeping Oxalis						
Oxalis perennans	-	0.1	1			0.1	1
Oxalis sp.	-						
Panicum effusum	Hairy Panic						
Panicum simile	Two-colour Panic					0.2	1
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow						
Paspalum dilatatum	Paspalum						

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Persoonia linearis	Narrow-leaved Geebung						
Petrorhagia dubia	-						
Petrorhagia nanteuilii	Proliferous Pink					0.1	1
Petrorhagia prolifera	Proliferous Pink	0.1	1				
Phalaris aquatica	Phalaris						
Phleum pratense	Timothy						
Phytolacca octandra	Inkweed						
Pimelea curviflora	Rice Flower						
Pimelea curviflora var. *sericea*	-						
Pimelea linifolia	Slender Rice Flower						
Plantago lanceolata	Lamb's Tongues					0.1	1
Plantago varia	-						
Platysace lanceolata	Shrubby Platysace						
Poa labillardierei var. *labillardierei*	Tussock					0.2	1
Poa sieberiana	Snowgrass						
Poaceae indeterminate	Grasses, reeds and bamboos						
Podolepis jaceoides	Showy Copper-wire Daisy						
Pomax umbellata	Pomax						
Poranthera microphylla	Small Poranthera						
Prunella vulgaris	Self-heal						
Pteridium esculentum	Bracken						
Pultenaea microphylla	A Bush Pea						
Pultenaea subspicata	Low Bush-pea						
Quercus robur	English Oak						
Ranunculus lappaceus	Common Buttercup						
Rhytidosporum procumbens	-						
Rosa rubiginosa	Sweet Briar						
Rubus anglocandicans	Blackberry						
Rubus fruticosus sp. *agg.*	Blackberry complex						
Rumex acetosella	Sheep Sorrel	0.1	1	0.1	1	0.1	1
Rumex brownii	Swamp Dock			0.1	1		
Rumex crispus	Curled Dock						
Rumex obtusifolius	Broadleaf Dock						
Rytidosperma carphoides	Short Wallaby Grass						
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass						
Rytidosperma racemosum	Wallaby Grass			0.5	1	5	1
Rytidosperma setaceum	Small-flowered Wallaby-grass	10	1				

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Rytidosperma sp.	-	2	1				
Schoenus apogon	Fluke Bogrush					0.5	1
Scleranthus biflorus	Two-flowered Knawel						
Scleranthus fasciculatus	-						
Senecio madagascariensis	Fireweed						
Senecio microbasis	-						
Senecio prenanthoides	-						
Senecio quadridentatus	Cotton Fireweed						
Senecio sp.	Groundsel, Fireweed						
Setaria parviflora	-						
Silybum marianum	Variegated Thistle						
Solanum nigrum	Black-berry Nightshade						
Solenogyne dominii	-						
Solenogyne gunnii	Solengyne						
Sonchus asper	Prickly Sowthistle						
Sonchus oleraceus	Common Sowthistle						
Sporobolus creber	Slender Rat's Tail Grass						
Stellaria pungens	Prickly Starwort						
Stylidium graminifolium	Grass Triggerplant						
Stylidium lineare	Narrow-leaved Triggerplant						
Stylidium sp.	-						
Themeda triandra	Kangaroo Grass					35	1
Tolpis barbata	Yellow Hawkweed						
Tolpis umbellata	Yellow Hawkweed						
Tricoryne elatior	Yellow Autumn-lily						
Trifolium arvense	Haresfoot Clover						
Trifolium campestre	Hop Clover						
Trifolium repens	White Clover	0.1	1	0.5	1		
Trifolium subterraneum	Subterranean Clover						
Triptilodiscus pygmaeus	Common Sunray						
Verbascum virgatum	Twiggy Mullein						
Veronica plebeia	Trailing Speedwell						
Viola betonicifolia	Native Violet						
Viola sp.	-						
Vittadinia cuneata	A Fuzzweed						
Vulpia bromoides	Squirrel Tail Fesque	0.5	1				
Vulpia myuros	Rat's Tail Fescue					0.5	1

Scientific Name	Common Name	BY093436		BY1004EA		BY056C93	
		C	A	C	A	C	A
Wahlenbergia communis	Tufted Bluebell						
Wahlenbergia gracilis	Sprawling Bluebell						
Wahlenbergia multicaulis	Tadgell's Bluebell						
Wahlenbergia sp.	Bluebell						
Wahlenbergia stricta	Tall Bluebell						
Wurmbea dioica subsp. *dioica*	Early Nancy					0.1	1
Xylomelum pyriforme	Woody Pear						
Xyris sp.	-						

Table A5- 8: Murrumbateman BAM floristic data

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																			5	1							0.1	1	0.1	1		
Acacia deanei	Green Wattle																																
Acacia decurrens	Black Wattle																																
Acacia falciformis	Broad-leaved Hickory																																
Acacia gunnii	Ploughshare Wattle																											0.8	1	0.1	1		
Acacia havilandiorum	Haviland's Wattle																																
Acacia mearnsii	Black Wattle																															0.1	1
Acacia paradoxa	Kangaroo Thorn																																
Acacia parramattensis	Parramatta Wattle																																
Acacia sp.	Wattle									0.1	1																						
Acaena ovina	Acaena																	0.1	1	0.2	1												
Agrostis capillaris	Browntop Bent																																

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Aira caryophyllea	Silvery Hairgrass																			0.5	1										
Aira cupaniana	Silvery Hairgrass	0.5	1					10	1					5	1	0.1	1			0.1	1									0.1	1
Aira elegantissima	Delicate Hairgrass																														
Alternanthera denticulata	Lesser Joyweed																														
Alternanthera nana	Hairy Joyweed																														
Amaranthus retroflexus	Redroot Amaranth																														
Ammobium craspedioides	Yass Daisy																														
Amyema miquelii	Box Mistletoe																														
Amyema sp.	Mistletoe																											0.1	1		
Anthoxanthum odoratum	Sweet Vernal Grass																														
Arctotheca calendula	Capeweed																	0.2	1												
Aristida acuta	-																														
Aristida personata	-																											0.5	1	0.3	1	0.3	1
Aristida ramosa	Purple Wiregrass							0.1	1							1	1														
Aristida vagans	Threeawn Speargrass															0.1	1														
Arthropodium milleflorum	Pale Vanilla-lily																														
Arthropodium minus	Small Vanilla Lily																														
Asperula conferta	Common Woodruff																			0.1	1										
Astroloma humifusum	Native Cranberry																														

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Astroloma pinifolium	Pine Heath									0.1	1																						
Austrostipa bigeniculata	Yanganbil													10	1					0.2	1	0.1	1			0.2	1						
Austrostipa densiflora	Foxtail Speargrass							2	1																								
Austrostipa scabra	Speargrass	20	1	0.5	1			5	1	0.5	1	50	1	15	1	30	1					0.2	1			0.5	1						
Austrostipa scabra subsp. *scabra*	Rough Speargrass																																
Austrostipa sp.	A Speargrass																																
Austrostipa verticillata	Slender Bamboo Grass																																
Avena barbata	Bearded Oats																	0.1	1			0.8	1	0.5	1								
Avena fatua	Wild Oats																																
Avena sativa	Oats																																
Axonopus fissifolius	Narrow-leafed Carpet Grass																	1	1														
Billardiera scandens	Hairy Apple Berry							0.1	1																								
Bothriochloa macra	Red Grass																					1	1	10	1								
Brachychiton populneus	Kurrajong																																
Brachyloma daphnoides	Daphne Heath							1	1																			1	1	0.2	1	1	1
Brachyscome dentata	-																																
Brassica rapa	-																																
Briza maxima	Quaking Grass					0.1	1													1	1									8	1		

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Briza minor	Shivery Grass					0.1	1																										
Briza subaristata	-																	0.1	1	0.1	1												
Bromus cartharticus	Prairie Grass	1	1																														
Bromus catharticus	Praire Grass			20	1																												
Bromus diandrus	Great Brome																			0.1	1												
Bromus hordeaceus	Soft Brome																	5	1			0.2	1	1	1								
Bromus molliformis	Soft Brome																																
Bromus rubens	Red Brome																																
Bromus sp.	A Brome																																
Bulbine bulbosa	Bulbine Lily																																
Bursaria spinosa	Native Blackthorn																																
Calochilus sp.	-																													0.1	1		
Calochlaena dubia	Rainbow Fern																																
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge																																
Carex incomitata	-																																
Carex inversa	Knob Sedge																	0.1	1	0.2	1												
Carex sp.	-																																
Carthamus lanatus	Saffron Thistle													0.1	1																		
Cassinia arcuata	Sifton Bush	0.2	1			15	1	25	1					0.1	1	0.1	1			0.8	1									20	1	20	1
Cassinia quinquefaria	-																																
Cassinia sp.	-																																

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cassytha melantha	-									0.1	1																						
Cassytha pubescens	Downy Dodder-laurel																																
Cassytha sp.	-																																
Celmisia longifolia	Snow Daisy																																
Centaurium erythraea	Common Centaury	0.5	1	0.1	1									1	1	0.1	1	0.1	1														
Centaurium tenuiflorum	Branched Centaury, Slender centaury																																
Cerastium glomeratum	Mouse-ear Chickweed							0.1	1																								
Chamaesyce drummondii	Caustic Weed																																
Cheilanthes sieberi	Rock Fern																																
Cheilanthes sieberi subsp. *sieberi*	Rock Fern																																
Cheiranthera linearis	Finger Flower																																
Chloris truncata	Windmill Grass	0.1	1	0.1	1																												
Chondrilla juncea	Skeleton Weed											0.1	1																				
Chrysocephalum apiculatum	Common Everlasting															0.1	1																
Cirsium arvense	Perennial Thistle																					0.2	1										
Cirsium vulgare	Spear Thistle													0.1	1			0.1	1	0.3	1			0.5	1								
Comesperma ericinum	Pyramid Flower																																
Comesperma sphaerocarpum	-																																

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Comesperma volubile	-																																
Convolvulus angustissimus	-																																
Convolvulus arvensis	Field Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane	0.1	1													0.1	1																
Coronidium elatum	-																																
Cotula australis	Common Cotula																	0.1	1	0.1	1												
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard																	1	1														
Cucumis myriocarpus	Paddy Melon																																
Cymbonotus lawsonianus	Bear's Ear																																
Cynodon dactylon	Common Couch																																
Cynosurus echinatus	Rough Dog's Tail																	5	1	30	1												
Cyperus eragrostis	Umbrella Sedge																																
Cyperus gracilis	Slender Flat-sedge																	0.1	1														
Cyperus sanguinolentus	-																																
Dactylis glomerata	Cocksfoot													1	1			2	1	10	1			1	1								
Dactyloctenium aegyptium	Coast Button Grass																																
Daucus glochidiatus	Native Carrot																																

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Daviesia mimosoides subsp. *mimosoides*	-																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil																																
Dianella caerulea	Blue Flax-lily																																
Dianella longifolia	Blueberry Lily																																
Dianella revoluta	Blueberry Lily					0.1	1																										
Dichelachne crinita	Longhair Plumegrass																																
Dichelachne micrantha	Shorthair Plumegrass																											1	1	5	1	10	1
Dichelachne rara	-																																
Dichelachne sp.	A Plumegrass																																
Dichondra repens	Kidney Weed																																
Dichopogon sp.	Chocolate Lily											0.1	1																				
Digitaria ciliaris	Summer Grass																					0.1	1			1	1						
Digitaria diffusa	Open Summer-grass																																
Digitaria sanguinalis	Crab Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas							0.2	1	0.1	1																	0.2	1				
Dillwynia sp.	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Diuris sulphurea	Tiger Orchid																																
Drosera peltata	A Sundew									0.1	1																						
Dysphania pumilio	Small Crumbweed	0.1	1	0.1	1													10	1							1	1						
Dysphania sp.	-																																
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon ovatus	Forest Hedgehog Grass																			0.5	1												
Echinopogon sp.	A Hedgehog Grass																																
Echium plantagineum	Patterson's Curse																							0.2	1								
Einadia nutans	Climbing Saltbush																																
Eleusine tristachya	Goose Grass																	0.2	1			0.1	1	1	1								
Elymus scaber	Common Wheatgrass	15	1	10	1							0.1	1			1	1			0.3	1	0.1	1	0.2	1								
Enneapogon nigricans	Niggerheads																																
Enteropogon acicularis	Curly Windmill Grass																							0.2	1								
Epilobium billardierianum	-																																
Epilobium ciliatum	-																																
Eragrostis brownii	Brown's Lovegrass			0.1	1													0.1	1					0.2	1								
Eragrostis cilianensis	Stinkgrass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eragrostis curvula	African Lovegrass																																
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass																																
Eragrostis parviflora	Weeping Lovegrass																																
Eragrostis sp.	A Lovegrass															0.1	1																
Eragrostis trachycarpa	A Lovegrass																																
Erodium botrys	Long Storksbill																																
Erodium cicutarium	Common Crowfoot																																
Erodium moschatum	Musky Crowfoot																																
Eucalyptus albens	White Box																																
Eucalyptus blakelyi	Blakely's Red Gum							2	1			10	1							5	1							5	1				
Eucalyptus bridgesiana	Apple Box																			5	1												
Eucalyptus cinerea	Argyle Apple																																
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																	8	1							10	1			5	1	4	1
Eucalyptus macrorhyncha	Red Stringybark					5	1			10	1							3	1	2	1							2	1	15	1	20	1
Eucalyptus mannifera	Brittle Gum																																
Eucalyptus melliodora	Yellow Box					0.5	1	10	1			5	1																				
Eucalyptus polyanthemos	Red Box							20	1	5	1																						

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum					20	1			2	1																	12	1	5	1	4	1
Eucalyptus sp.	-																																
Euchiton involucratus	Star Cudweed																																
Euchiton japonicus	-	0.1	1													0.1	1			0.1	1												
Euchiton sphaericus	Star Cudweed	0.1	1	0.1	1									0.1	1	0.1	1	0.2	1	0.1	1											0.1	1
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass																																
Gamochaeta americana	Cudweed																	0.1	1	0.1	1												
Genoplesium sp.	-																																
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																																
Geranium solanderi	Native Geranium											0.2	1	1	1																		
Geranium solanderi var. *solanderi*	-																	0.1	1														
Geranium sp.	-																																
Glycine canescens	Silky Glycine																																
Glycine clandestina	Twining glycine																			0.1	1												
Gompholobium glabratum	Dainty Wedge Pea																											0.2	1			0.1	1

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Gompholobium huegelii	Pale Wedge Pea																																
Gompholobium sp.	-																																
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort					0.1	1	10	1	0.2	1									0.1	1							0.8	1	1	1	1	1
Goodenia bellidifolia	-									0.1	1																						
Goodenia hederacea	Ivy Goodenia					0.1	1			0.1	1																	0.8	1	0.5	1	0.5	1
Goodenia hederacea subsp. *hederacea*	-							2	1																								
Goodenia sp.	-																											0.5	1			0.1	1
Grevillea lanigera	Woolly Grevillea																																
Haloragis heterophylla	Variable Raspwort																																
Hardenbergia violacea	False Sarsaparilla																																
Hibbertia calycina	Lesser Guinea Flower																																
Hibbertia obtusifolia	Hoary Guinea Flower					0.1	1	1	1	0.1	1																	0.1	1	0.5	1	0.2	1
Hibbertia riparia	-																													0.2	1	0.5	1
Hibbertia sp.	-									0.1	1																						
Holcus lanatus	Yorkshire Fog	1	1	1	1									10	1					0.2	1					0.5	1						
Hordeum leporinum	Barley Grass																																
Hordeum murinum	Barley-grass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hovea heterophylla	-									0.1	1																						
Hovea lanceolata	-																											0.1	1				
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort																			0.1	1												
Hypericum gramineum	Small St John's Wort			0.2	1									0.1	1					0.1	1											0.1	1
Hypericum perforatum	St. Johns Wort											0.2	1																				
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear	0.1	1	0.1	1			1	1			10	1	2	1	0.1	1	2	1	2	1	2	1	0.1	1					0.1	1		
Indigofera australis	Australian Indigo																																
Isotoma fluviatilis	Swamp Isotome																																
Isotoma fluviatilis subsp. *australis*	-																																
Juncaceae indeterminate	Rushes																																
Juncus australis	Rush																																
Juncus bufonius	Toad Rush																																
Juncus capitatus	-																																
Juncus continuus	-																																
Juncus filicaulis	-																																
Juncus flavidus	-																																
Juncus sp.	A Rush			0.1	1																												
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-							0.1	1	0.1	1									3	1												
Kunzea ericoides	Burgan					1	1			70	1	0.1	1															45	1	60	1		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lactuca serriola	Prickly Lettuce																																
Lasiopetalum sp.	-																																
Lepidosperma laterale	Variable Sword-sedge							0.1	1																								
Leptospermum multicaule	Silver Tea-tree																																
Leptospermum sp.	Tea-tree																																
Leucochrysum albicans var. *tricolor*	Hoary Sunray																																
Leucopogon fletcheri	-																																
Leucopogon muticus	Blunt Beard-heath																																
Leucopogon sp.	A Beard-heath																																
Linaria pelisseriana	Pelisser's Toadflax							0.3	1																								
Linum trigynum	French Flax																																
Lissanthe strigosa	Peach Heath									0.5	1					0.1	1			0.1	1							0.3	1				
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass											25	1	15	1			15	1	1	1					5	1						
Lolium rigidum	Wimmera Ryegrass																																
Lomandra bracteata	Mat-rush																																
Lomandra confertifolia	Matrush					0.1	1																										
Lomandra filiformis	Wattle Matt-rush	0.1	1			0.1	1	0.1	1	0.1	1																						

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																															0.5	1
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush					1	1	0.2	1	0.1	1					0.1	1																
Lomandra longifolia	Spiny-headed Mat-rush																																
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush			0.1	1																					0.2	1	0.5	1	0.5	1		
Luzula densiflora	Woodrush																																
Lysimachia arvensis	Scarlet Pimpernel																	0.1	1	0.1	1												
Lythrum hyssopifolia	Hyssop Loosestrife																	0.1	1	0.5	1												
Malus domestica	Apple																																
Malva neglecta	Dwarf Mallow																																
Malva parviflora	Small-flowered Mallow																									0.1	1						
Marrubium vulgare	White Horehound																																
Medicago minima	Woolly Burr Medic																																
Megathyrsus maximus	-																	1	1														
Melichrus urceolatus	Urn Heath					0.1	1																										
Mentha pulegium	Pennyroyal																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Mentha satureioides	Native Pennyroyal																			0.1	1												
Microlaena stipoides	Weeping Grass	5	1	1	1			0.5	1	0.2	1	10	1	10	1					0.5	1	45	1	65	1	5	1	0.2	1				
Microlaena stipoides var. *stipoides*	Weeping Grass																																
Microtis parviflora	Slender Onion Orchid																																
Microtis rara	Scented Onion Orchid																																
Microtis sp.	-					0.1	1	0.1	1																								
Mirbelia oxylobioides	Mountain Mirbelia									0.1	1																						
Modiola caroliniana	Red-flowered Mallow																																
Monotoca scoparia	-																																
Nassella neesiana	Chilean Needle Grass																																
Nassella trichotoma	Serrated Tussock																																
Nothoscordum inodorum	Onion Weed																																
Onopordum acanthium	Scotch Thistle																																
Opercularia diphylla	Stinkweed																																
Opercularia varia	Variable Stinkweed																																
Orchidaceae indeterminate	Orchids																																
Orobanche minor	Broomrape																																
Oxalis exilis	-	0.1	1	0.1	1																												

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Oxalis perennans	-																	0.1	1	0.1	1												
Oxalis sp.	-											0.1	1	1	1																		
Oxalis thompsoniae	-																																
Panicum capillare	Witchgrass																									2	1						
Panicum effusum	Hairy Panic																																
Panicum simile	Two-colour Panic																	0.5	1	0.5	1	1	1	2	1								
Panicum sp.	Panicum													0.2	1																		
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																																
Paspalum dilatatum	Paspalum																							10	1								
Patersonia sericea	Silky Purple-Flag																																
Patersonia sp.	-																																
Persicaria prostrata	Creeping Knotweed																																
Persoonia rigida	-																																
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink							0.3	1									0.1	1	0.1	1												
Phalaris aquatica	Phalaris			0.1	1							0.1	1							3	1	0.2	1										
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																			0.1	1												
Phytolacca octandra	Inkweed																									5	1						

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pimelea linifolia	Slender Rice Flower					0.1	1																										
Plantago lanceolata	Lamb's Tongues													0.2	1																		
Plantago varia	-																																
Poa labillardierei var. *labillardierei*	Tussock																			0.2	1	0.1	1									0.2	1
Poa sieberiana	Snowgrass																											0.1	1				
Poa sieberiana var. *cyanophylla*	-					1	1	0.1	1	0.1	1																						
Poa sieberiana var. *sieberiana*	Snowgrass																																
Poa sp.	-																																
Polycarpon tetraphyllum	Four-leaved Allseed																																
Polygonum aviculare	Wireweed																																
Polygonum sp.	-																																
Polypogon monspeliensis	Annual Beardgrass																																
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera					0.1	1	0.1	1	0.1	1																			0.1	1	0.1	1
Pseudognaphalium luteoalbum	Jersey Cudweed	0.1	1																														
Pultenaea microphylla	A Bush Pea									0.1	1																			0.5	1		
Pultenaea procumbens	-																																
Pultenaea sp.	-																													0.1	1		
Pultenaea subspicata	Low Bush-pea																																
Rhytidosporum procumbens	-							0.1	1	0.1	1																	0.1	1				

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar																																
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex																																
Rumex acetosella	Sheep Sorrel	5	1	2	1							2	1	10	1			2	1			0.5	1	2	1	20	1						
Rumex brownii	Swamp Dock			0.1	1																			1	1								
Rumex crispus	Curled Dock																																
Rytidosperma auriculatum	Lobed Wallaby Grass	1	1													0.2	1																
Rytidosperma caespitosum	Ringed Wallaby Grass	20	1	25	1	0.1	1									50	1													0.1	1	0.2	1
Rytidosperma carphoides	Short Wallaby Grass			0.1	1											1	1																
Rytidosperma duttonianum	Brown-back Wallaby Grass																																
Rytidosperma erianthum	Wallaby Grass																																
Rytidosperma fulvum	Wallaby Grass					0.1	1			0.2	1					1	1																
Rytidosperma laeve	Wallaby Grass																																
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass					60	1			0.2	1																	1	1				

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma racemosum	Wallaby Grass																	5	1	20	1	45	1	5	1	5	1	0.1	1	0.2	1	0.1	1
Rytidosperma setaceum	Small-flowered Wallaby-grass																																
Rytidosperma sp.	-	10	1	15	1			1	1																								
Schoenus apogon	Fluke Bogrush																			0.1	1							0.2	1	0.2	1	0.1	1
Schoenus sp.	-																			0.1	1												
Scleranthus biflorus	Two-flowered Knawel																																
Scutellaria humilis	Dwarf Skullcap																																
Senecio prenanthoides	-																													0.1	1		
Senecio quadridentatus	Cotton Fireweed																																
Setaria italica	Foxtail Millet																																
Setaria parviflora	-																																
Setaria sp.	-																																
Setaria verticillata	Whorled Pigeon Grass																																
Sida sp. *A*	-																																
Silybum marianum	Variegated Thistle																																
Sisyrinchium micranthum	Blue Pigroot																																
Solanum nigrum	Black-berry Nightshade	0.1	1															0.5	1							2	1						
Solenogyne dominii	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sonchus asper	Prickly Sowthistle																					0.1	1	0.5	1								
Sonchus oleraceus	Common Sowthistle	0.1	1									0.1	1	0.1	1			0.1	1	0.1	1					0.1	1						
Spergularia rubra	Sandspurry																																
Stellaria media	Common Chickweed																																
Stylidium graminifolium	Grass Triggerplant									0.1	1																						
Stylidium lineare	Narrow-leaved Triggerplant																											0.1	1				
Stypandra glauca	Nodding Blue Lily																																
Taraxacum officinale	Dandelion																																
Thelymitra sp.	-									0.1	1																						
Themeda triandra	Kangaroo Grass													0.2	1																		
Thysanotus tuberosus	Common Fringe-lily																																
Thysanotus tuberosus subsp. *tuberosus*	-																																
Tolpis barbata	Yellow Hawkweed																																
Tolpis umbellata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																			0.1	1			0.5	1								
Trifolium angustifolium	Narrow-leaved Clover																	0.1	1	0.1	1												
Trifolium arvense	Haresfoot Clover											1	1	1	1																		

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Trifolium campestre	Hop Clover																	0.2	2														
Trifolium dubium	Yellow Suckling Clover			0.1	1																												
Trifolium glomeratum	Clustered Clover																																
Trifolium repens	White Clover			5	1													0.1	1	0.1	1	0.1	1										
Trifolium subterraneum	Subterranean Clover	0.1	1	1	1									3	1																		
Triptilodiscus pygmaeus	Common Sunray																																
Urtica incisa	Stinging Nettle																									0.5	1						
Urtica urens	Small Nettle																																
Velleia paradoxa	-																																
Verbascum thapsus	Aarons Rod																																
Veronica calycina	Hairy Speedwell							0.1	1																								
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																			0.1	1												
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue													5	1			0.1	1	0.1	1	0.1	1										
Wahlenbergia communis	Tufted Bluebell																	0.1	1											0.1	1	0.1	1
Wahlenbergia gracilis	Sprawling Bluebell																																

Scientific Name	Common Name	1300221 4		13002B2 2		13009DE F		6699ABB 1		6699ABB 2		6699ABB 3		6699ABB 4		B12851 A		BY10345 E		BY10369 E		BY1037A 5		BY103FF B		BY1060B E		BY1110C 5		BY11136 B		BY11151 5	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Wahlenbergia luteola	Bluebell	0.2	1	0.1	1																												
Wahlenbergia multicaulis	Tadgell's Bluebell					0.1	1	0.1	1																								
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell									0.1	1					0.1	1			0.1	1												
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell							0.5	1																								
Xanthium spinosum	Bathurst Burr																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 9: Murrumbateman BAM floristic data

Scientific Name	Common Name	BY1117 D0		BY111A B5		BY111E 49		BY113010 D2		BY113010 D9		BY113013 46		BY1150 16		BY1156 02		BY115C 0D		BY117039 A3		BY12003F EA		BY120048 8D		BY120E 8B		BY12201A 52		BY122021 B6		BY122E C8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle					10	1																										
Acacia deanei	Green Wattle																																
Acacia decurrens	Black Wattle																																
Acacia falciformis	Broad-leaved Hickory																																
Acacia gunnii	Ploughshare Wattle																																
Acacia havilandiorum	Haviland's Wattle																																
Acacia mearnsii	Black Wattle			10	1	15	1																										

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia paradoxa	Kangaroo Thorn																																
Acacia parramattensis	Parramatta Wattle																																
Acacia sp.	Wattle																																
Acaena ovina	Acaena	0.1	1	0.1	1																												
Agrostis capillaris	Browntop Bent																																
Aira caryophyllea	Silvery Hairgrass	0.2	1							0.1	1																						
Aira cupaniana	Silvery Hairgrass	0.1	1					0.1	1	0.1	1							0.1	1														
Aira elegantissima	Delicate Hairgrass																																
Alternanthera denticulata	Lesser Joyweed																																
Alternanthera nana	Hairy Joyweed																																
Amaranthus retroflexus	Redroot Amaranth																																
Ammobium craspedioides	Yass Daisy																																
Amyema miquelii	Box Mistletoe																																
Amyema sp.	Mistletoe									0.5	1																						
Anthoxanthum odoratum	Sweet Vernal Grass																																
Arctotheca calendula	Capeweed																																
Aristida acuta	-																													0.1	1		
Aristida personata	-	2	1					1	1					20	1	5	1	30	1														
Aristida ramosa	Purple Wiregrass											1	1			1	1																

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Aristida vagans	Threeawn Speargrass							3	1	5	1													0.1	1						
Arthropodium milleflorum	Pale Vanilla-lily	0.2	1																												
Arthropodium minus	Small Vanilla Lily																														
Asperula conferta	Common Woodruff					0.1	1																	0.1	1						
Astroloma humifusum	Native Cranberry																														
Astroloma pinifolium	Pine Heath																														
Austrostipa bigeniculata	Yanganbil																														
Austrostipa densiflora	Foxtail Speargrass																														
Austrostipa scabra	Speargrass	0.1	1	0.8	1					0.1	1	8	1	0.1	1	5	1	0.1	1	50	1							5	1			2	1
Austrostipa scabra subsp. *scabra*	Rough Speargrass																														
Austrostipa sp.	A Speargrass																														
Austrostipa verticillata	Slender Bamboo Grass																														
Avena barbata	Bearded Oats			0.1	1																										
Avena fatua	Wild Oats																														
Avena sativa	Oats																														
Axonopus fissifolius	Narrow-leafed Carpet Grass																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Billardiera scandens	Hairy Apple Berry																														
Bothriochloa macra	Red Grass			0.1	1							45	1	0.1	1	0.5	1			5	1	10	1					0.1	1			10	1
Brachychiton populneus	Kurrajong																														
Brachyloma daphnoides	Daphne Heath	3	1															0.1	1					0.1	1						
Brachyscome dentata	-																														
Brassica rapa	-																														
Briza maxima	Quaking Grass	10	1	1	1	10	1	3	1	0.2	1	0.5	1					1	1											0.1	1		
Briza minor	Shivery Grass																													0.1	1		
Briza subaristata	-	0.1	1			0.1	1			0.1	1																				
Bromus cartharticus	Prairie Grass																			5	1	0.1	1								
Bromus catharticus	Praire Grass																									5	1				
Bromus diandrus	Great Brome																														
Bromus hordeaceus	Soft Brome			0.1	1																					1	1				
Bromus molliformis	Soft Brome																														
Bromus rubens	Red Brome																														
Bromus sp.	A Brome																														
Bulbine bulbosa	Bulbine Lily									0.1	1																				
Bursaria spinosa	Native Blackthorn																							0.1	1						
Calochilus sp.	-																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Calochlaena dubia	Rainbow Fern																																
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge													1	1																		
Carex incomitata	-																																
Carex inversa	Knob Sedge																																
Carex sp.	-																																
Carthamus lanatus	Saffron Thistle																											0.1	1				
Cassinia arcuata	Sifton Bush	0.2	1	0.1	1	20	1	0.2	1	0.2	1	0.3	1	10	1	50	1	35	1														
Cassinia quinquefaria	-					1	1																										
Cassinia sp.	-																																
Cassytha melantha	-																																
Cassytha pubescens	Downy Dodder-laurel																																
Cassytha sp.	-																																
Celmisia longifolia	Snow Daisy													0.1	1																		
Centaurium erythraea	Common Centaury	0.1	1			0.1	1					0.1	1	0.5	1	0.1	1	0.1	1					2	1					1	1	0.1	1
Centaurium tenuiflorum	Branched Centaury, Slender centaury																																
Cerastium glomeratum	Mouse-ear Chickweed																																

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY11560 2		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Chamaesyce drummondii	Caustic Weed																														
Cheilanthes sieberi	Rock Fern	0.2	1					0.1	1	0.1	1	0.1	1					0.1	1												
Cheilanthes sieberi subsp. *sieberi*	Rock Fern																														
Cheiranthera linearis	Finger Flower																														
Chloris truncata	Windmill Grass													0.1	1					0.1	1							0.1	1	0.1	1	0.1	1
Chondrilla juncea	Skeleton Weed																											0.1	1				
Chrysocephalum apiculatum	Common Everlasting																							0.1	1					5	1		
Cirsium arvense	Perennial Thistle											0.1	1																				
Cirsium vulgare	Spear Thistle			0.8	1	0.5	1																									0.1	1
Comesperma ericinum	Pyramid Flower																																
Comesperma sphaerocarpum	-																																
Comesperma volubile	-																																
Convolvulus angustissimus	-																																
Convolvulus arvensis	Field Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane					0.1	1					0.1	1															0.1	1			0.1	1
Coronidium elatum	-																																
Cotula australis	Common Cotula																																

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Crassula sieberiana	Australian Stonecrop																														
Crepis capillaris	Smooth Hawksbeard	0.1	1	0.2	1	0.1	1					0.2	1																		
Cucumis myriocarpus	Paddy Melon																														
Cymbonotus lawsonianus	Bear's Ear																														
Cynodon dactylon	Common Couch													0.1	1					0.1	1							0.1	1		
Cynosurus echinatus	Rough Dog's Tail			0.5	1																										
Cyperus eragrostis	Umbrella Sedge																														
Cyperus gracilis	Slender Flat-sedge																														
Cyperus sanguinolentus	-																														
Dactylis glomerata	Cocksfoot			0.8	1															0.5	1					10	1	20	1		
Dactyloctenium aegyptium	Coast Button Grass																														
Daucus glochidiatus	Native Carrot	0.2	1																												
Daviesia mimosoides subsp. *mimosoides*	-																														
Desmodium gunnii	Slender Tick-trefoil																														
Desmodium varians	Slender Tick-trefoil	0.2	1									0.1	1															0.1	1		

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dianella caerulea	Blue Flax-lily																														
Dianella longifolia	Blueberry Lily																														
Dianella revoluta	Blueberry Lily																														
Dichelachne crinita	Longhair Plumegrass																													1	1
Dichelachne micrantha	Shorthair Plumegrass	0.5	1					2	1	0.1	1	10	1																		
Dichelachne rara	-	0.2	1																												
Dichelachne sp.	A Plumegrass																														
Dichondra repens	Kidney Weed					0.1	1					0.1	1																		
Dichopogon sp.	Chocolate Lily																														
Digitaria ciliaris	Summer Grass																														
Digitaria diffusa	Open Summer-grass																														
Digitaria sanguinalis	Crab Grass																														
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																							0.1	1						
Dillwynia sp.	-																														
Diuris sulphurea	Tiger Orchid																														
Drosera peltata	A Sundew	0.1	1																												

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dysphania pumilio	Small Crumbweed																											0.1	1			0.1	1
Dysphania sp.	-																																
Echinopogon caespitosus	Bushy Hedgehog-grass					0.5	1																										
Echinopogon ovatus	Forest Hedgehog Grass																																
Echinopogon sp.	A Hedgehog Grass																																
Echium plantagineum	Patterson's Curse																													0.1	1		
Einadia nutans	Climbing Saltbush																																
Eleusine tristachya	Goose Grass					0.1	1													10	1	1	1					0.1	1			0.1	1
Elymus scaber	Common Wheatgrass	0.1	1									0.5	1	0.1	1	5	1	5	1	0.1	1	0.1	1					0.1	1			20	1
Enneapogon nigricans	Niggerheads																																
Enteropogon acicularis	Curly Windmill Grass																																
Epilobium billardierianum	-																																
Epilobium ciliatum	-																																
Eragrostis brownii	Brown's Lovegrass											0.2	1																				
Eragrostis cilianensis	Stinkgrass																																
Eragrostis curvula	African Lovegrass																																

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eragrostis elongata	Clustered Lovegrass																														
Eragrostis leptostachya	Paddock Lovegrass													1	1							10	1								
Eragrostis parviflora	Weeping Lovegrass																														
Eragrostis sp.	A Lovegrass																											0.1	1			1	1
Eragrostis trachycarpa	A Lovegrass																														
Erodium botrys	Long Storksbill																														
Erodium cicutarium	Common Crowfoot																														
Erodium moschatum	Musky Crowfoot																														
Eucalyptus albens	White Box																														
Eucalyptus blakelyi	Blakely's Red Gum	15	1	10	1	20	1	10	1	20	1																				
Eucalyptus bridgesiana	Apple Box			20	1	5	1																								
Eucalyptus cinerea	Argyle Apple																														
Eucalyptus dives	Broad-leaved Peppermint																														
Eucalyptus goniocalyx	Bundy																														
Eucalyptus macrorhyncha	Red Stringybark																	5	1												
Eucalyptus mannifera	Brittle Gum																														
Eucalyptus melliodora	Yellow Box	8	1					2	1																						
Eucalyptus polyanthemos	Red Box																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus polyanthemos subsp. *polyanthemos*	-																														
Eucalyptus rossii	Inland Scribbly Gum																														
Eucalyptus sp.	-																														
Euchiton involucratus	Star Cudweed																														
Euchiton japonicus	-											0.1	1																		
Euchiton sphaericus	Star Cudweed	0.1	1									0.2	1	0.1	1													0.1	1	0.1	1	0.1	1
Exocarpos cupressiformis	Cherry Ballart																														
Gahnia sp.	-			0.1	1																										
Galium aparine	Goosegrass																														
Gamochaeta americana	Cudweed																														
Genoplesium sp.	-																														
Geranium molle	Cranesbill Geranium																														
Geranium potentilloides	-																					0.1	1								
Geranium solanderi	Native Geranium	0.1	1	0.8	1	0.5	1																								
Geranium solanderi var. *solanderi*	-																														
Geranium sp.	-																														
Glycine canescens	Silky Glycine									0.1	1																				
Glycine clandestina	Twining glycine																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Gompholobium glabratum	Dainty Wedge Pea																														
Gompholobium huegelii	Pale Wedge Pea																														
Gompholobium sp.	-																														
Gonocarpus elatus	A Raspwort																														
Gonocarpus tetragynus	Poverty Raspwort	0.5	1			2	1	0.2	1	0.1	1							1	1					0.1	1						
Goodenia bellidifolia	-																														
Goodenia hederacea	Ivy Goodenia	0.3	1			0.1	1	0.2	1	0.1	1							1	1					1	1					0.1	1
Goodenia hederacea subsp. *hederacea*	-																														
Goodenia sp.	-																														
Grevillea lanigera	Woolly Grevillea																														
Haloragis heterophylla	Variable Raspwort																														
Hardenbergia violacea	False Sarsaparilla																														
Hibbertia calycina	Lesser Guinea Flower																														
Hibbertia obtusifolia	Hoary Guinea Flower	0.1	1					0.1	1	0.1	1	0.5	1					0.1	1												
Hibbertia riparia	-	0.2	1																												
Hibbertia sp.	-																														
Holcus lanatus	Yorkshire Fog			6	1	2	1							25	1	1	1	1	1												

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hordeum leporinum	Barley Grass																														
Hordeum murinum	Barley-grass																														
Hovea heterophylla	-																														
Hovea lanceolata	-																														
Hovea linearis	-																														
Hydrocotyle laxiflora	Stinking Pennywort					0.2	1			0.1	1	0.1	1																		
Hypericum gramineum	Small St John's Wort	0.1	1			0.1	1	0.1	1	0.1	1	0.1	1	0.2	1	1	1	1	1			0.2	1								
Hypericum perforatum	St. Johns Wort													0.1	1	0.5	1	0.5	1											1	1
Hypochaeris glabra	Smooth Catsear																														
Hypochaeris radicata	Catsear	0.1	1	0.1	1	0.1	1			0.1	1	0.1	1	0.1	1	0.1	1	1	1	10	1	0.1	1					0.1	1	0.1	1	0.1	1
Indigofera australis	Australian Indigo																														
Isotoma fluviatilis	Swamp Isotome																														
Isotoma fluviatilis subsp. *australis*	-																														
Juncaceae indeterminate	Rushes																														
Juncus australis	Rush																					0.1	1								
Juncus bufonius	Toad Rush																														
Juncus capitatus	-																														
Juncus continuus	-																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Juncus filicaulis	-													10	1	1	1	0.2	1												
Juncus flavidus	-																														
Juncus sp.	A Rush																														
Juncus subsecundus	Finger Rush																														
Juncus usitatus	-																														
Kunzea ericoides	Burgan	5	1	10	1			50	1	60	1																				
Lactuca serriola	Prickly Lettuce																														
Lasiopetalum sp.	--																														
Lepidosperma laterale	Variable Sword-sedge																														
Leptospermum multicaule	Silver Tea-tree															5	1	10	1												
Leptospermum sp.	Tea-tree																														
Leucochrysum albicans var. *tricolor*	Hoary Sunray																							1	1						
Leucopogon fletcheri	-																														
Leucopogon muticus	Blunt Beard-heath																														
Leucopogon sp.	A Beard-heath																														
Linaria pelisseriana	Pelisser's Toadflax																														
Linum trigynum	French Flax																														
Lissanthe strigosa	Peach Heath	0.8	1			0.5	1					2	1											0.1	1						

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lolium multiflorum	Italian Ryegrass																														
Lolium perenne	Perennial Ryegrass																														
Lolium rigidum	Wimmera Ryegrass																														
Lomandra bracteata	Mat-rush																														
Lomandra confertifolia	Matrush																														
Lomandra filiformis	Wattle Matt-rush																							0.1	1					0.1	1		
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																														
Lomandra filiformis subsp. *filiformis*	-																														
Lomandra glauca	Pale Mat-rush																														
Lomandra longifolia	Spiny-headed Mat-rush																														
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush	0.5	1																											0.4	1
Luzula densiflora	Woodrush	0.1	1																												
Lysimachia arvensis	Scarlet Pimpernel	0.1	1	0.1	1	0.1	1																								
Lythrum hyssopifolia	Hyssop Loosestrife					0.5	1																								
Malus domestica	Apple																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Malva neglecta	Dwarf Mallow																														
Malva parviflora	Small-flowered Mallow																														
Marrubium vulgare	White Horehound																														
Medicago minima	Woolly Burr Medic																														
Megathyrsus maximus	-																														
Melichrus urceolatus	Urn Heath																							0.1	1						
Mentha pulegium	Pennyroyal																														
Mentha satureioides	Native Pennyroyal																														
Microlaena stipoides	Weeping Grass	0.1	1	20	1	40	1	0.2	1			5	1					1	1	5	1	10	1								
Microlaena stipoides var. *stipoides*	Weeping Grass																														
Microtis parviflora	Slender Onion Orchid																														
Microtis rara	Scented Onion Orchid	0.1	1					0.1	1																						
Microtis sp.	-																														
Mirbelia oxylobioides	Mountain Mirbelia																														
Modiola caroliniana	Red-flowered Mallow			0.5	1																										
Monotoca scoparia	-																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Nassella neesiana	Chilean Needle Grass											0.1	1																		
Nassella trichotoma	Serrated Tussock																											0.1	1			0.1	1
Nothoscordum inodorum	Onion Weed																														
Onopordum acanthium	Scotch Thistle																											0.1	1				
Opercularia diphylla	Stinkweed					0.5	1	0.1	1																						
Opercularia varia	Variable Stinkweed																														
Orchidaceae indeterminate	Orchids																														
Orobanche minor	Broomrape																														
Oxalis exilis	-																			0.1	1										
Oxalis perennans	-	0.1	1	0.1	1	0.1	1					0.1	1																		
Oxalis sp.	-																													0.1	1
Oxalis thompsoniae	-																														
Panicum capillare	Witchgrass																														
Panicum effusum	Hairy Panic													5	1	0.5	1	1	1			5	1	0.1	1			1	1	0.1	1	2	1
Panicum simile	Two-colour Panic			0.1	1					0.1	1	8	1																		
Panicum sp.	Panicum																														
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																														
Paspalum dilatatum	Paspalum			2	1																	3	1					0.1	1			0.1	1

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Patersonia sericea	Silky Purple-Flag																																
Patersonia sp.	-																																
Persicaria prostrata	Creeping Knotweed																									0.1	1						
Persoonia rigida	-																																
Petrorhagia dubia	-	3	1							0.1	1	0.1	1																				
Petrorhagia nanteuilii	Proliferous Pink																																
Phalaris aquatica	Phalaris			40	1	5	1															1	1			85	1	60	1			15	1
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																																
Phytolacca octandra	Inkweed																																
Pimelea linifolia	Slender Rice Flower																																
Plantago lanceolata	Lamb's Tongues			0.2	1																	0.1	1										
Plantago varia	-	0.1	1																														
Poa labillardierei var. *labillardierei*	Tussock	0.5	1	5	1																	0.1	1										
Poa sieberiana	Snowgrass																																
Poa sieberiana var. *cyanophylla*	-																	1	1														
Poa sieberiana	Snowgrass																																

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
var. *sieberiana*																															
Poa sp.	-																														
Polycarpon tetraphyllum	Four-leaved Allseed																														
Polygonum aviculare	Wireweed																														
Polygonum sp.	-																														
Polypogon monspeliensis	Annual Beardgrass																														
Pomax umbellata	Pomax																														
Poranthera microphylla	Small Poranthera	0.1	1																												
Pseudognaphalium luteoalbum	Jersey Cudweed																														
Pultenaea microphylla	A Bush Pea																														
Pultenaea procumbens	-							0.1	1															0.1	1						
Pultenaea sp.	-																														
Pultenaea subspicata	Low Bush-pea																														
Rhytidosporum procumbens	-																														
Romulea rosea	Onion Weed																														
Rosa rubiginosa	Sweet Briar			0.5	1																										
Rubus anglocandicans	Blackberry																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rubus fruticosus sp. *agg.*	Blackberry complex	0.1	1	0.5	1																										
Rumex acetosella	Sheep Sorrel			0.2	1							0.1	1			1	1			5	1	0.1	1			0.1	1				
Rumex brownii	Swamp Dock			0.1	1	0.1	1									0.1	1			0.2	1	0.1	1							0.1	1
Rumex crispus	Curled Dock																														
Rytidosperma auriculatum	Lobed Wallaby Grass																			1	1							1	1	0.1	1	2	1
Rytidosperma caespitosum	Ringed Wallaby Grass							0.5	1			0.5	1							10	1							1	1			0.1	1
Rytidosperma carphoides	Short Wallaby Grass																							0.1	1								
Rytidosperma duttonianum	Brown-back Wallaby Grass																																
Rytidosperma erianthum	Wallaby Grass																																
Rytidosperma fulvum	Wallaby Grass																																
Rytidosperma laeve	Wallaby Grass																																
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass																																
Rytidosperma racemosum	Wallaby Grass	10	1	8	1					2	1	2	1																				
Rytidosperma setaceum	Small-flowered																																

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
	Wallaby-grass																														
Rytidosperma sp.	-					8	1	0.1	1					1.5	2	25	2	5	1	5	1									15	1
Schoenus apogon	Fluke Bogrush	0.5	1			5	1	0.1	1	0.1	1																				
Schoenus sp.	-																														
Scleranthus biflorus	Two-flowered Knawel																														
Scutellaria humilis	Dwarf Skullcap																														
Senecio prenanthoides	-																														
Senecio quadridentatus	Cotton Fireweed																														
Setaria italica	Foxtail Millet																														
Setaria parviflora	-			0.1	1																	1	1								
Setaria sp.	-																														
Setaria verticillata	Whorled Pigeon Grass																														
Sida sp. *A*	-									0.1	1																				
Silybum marianum	Variegated Thistle																														
Sisyrinchium micranthum	Blue Pigroot																														
Solanum nigrum	Black-berry Nightshade																													0.1	1
Solenogyne dominii	-																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sonchus asper	Prickly Sowthistle																														
Sonchus oleraceus	Common Sowthistle	0.1	1			0.1	1													0.1	1										
Spergularia rubra	Sandspurry																														
Stellaria media	Common Chickweed																														
Stylidium graminifolium	Grass Triggerplant																														
Stylidium lineare	Narrow-leaved Triggerplant																														
Stypandra glauca	Nodding Blue Lily																														
Taraxacum officinale	Dandelion																														
Thelymitra sp.	-																														
Themeda triandra	Kangaroo Grass	5	1					5	1									5	1			15	1	75	1					60	1	1	1
Thysanotus tuberosus	Common Fringe-lily																														
Thysanotus tuberosus subsp. *tuberosus*	-																														
Tolpis barbata	Yellow Hawkweed											2	1																		
Tolpis umbellata	Yellow Hawkweed																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY115602		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Tricoryne elatior	Yellow Autumn-lily	0.1	1			0.1	1																								
Trifolium angustifolium	Narrow-leaved Clover	0.1	1	0.2	1	0.1	1					0.3	1											0.1	1						
Trifolium arvense	Haresfoot Clover																													0.1	1
Trifolium campestre	Hop Clover	0.1	1			0.1	1																							0.1	1
Trifolium dubium	Yellow Suckling Clover																														
Trifolium glomeratum	Clustered Clover																														
Trifolium repens	White Clover																														
Trifolium subterraneum	Subterranean Clover																													0.2	1
Triptilodiscus pygmaeus	Common Sunray																														
Urtica incisa	Stinging Nettle																														
Urtica urens	Small Nettle																														
Velleia paradoxa	-																														
Verbascum thapsus	Aarons Rod																														
Veronica calycina	Hairy Speedwell																														
Veronica plebeia	Trailing Speedwell	0.1	1																												
Viola betonicifolia	Native Violet																														

Scientific Name	Common Name	BY1117D0		BY111AB5		BY111E49		BY113010D2		BY113010D9		BY11301346		BY115016		BY11560 2		BY115C0D		BY117039A3		BY12003FEA		BY1200488D		BY120E8B		BY12201A52		BY122021B6		BY122EC8	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue																													0.1	1		
Wahlenbergia communis	Tufted Bluebell	0.1	1									0.2	1																				
Wahlenbergia gracilis	Sprawling Bluebell							0.1	1	0.2	1																						
Wahlenbergia luteola	Bluebell																													0.1	1		
Wahlenbergia multicaulis	Tadgell's Bluebell															0.1	1	0.1	1														
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell					0.1	1																										
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell																																
Xanthium spinosum	Bathurst Burr																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 10: Murrumbateman BAM floristic data

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY13009E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY13012678		BY130126C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle							0.2	1											3	1					0.2	1	0.1	1			0.1	1
Acacia deanei	Green Wattle																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301678		BY13012 6C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia decurrens	Black Wattle									15	1																						
Acacia falciformis	Broad-leaved Hickory																																
Acacia gunnii	Ploughshare Wattle											0.1	1											0.1	1								
Acacia havilandiorum	Haviland's Wattle																							0.1	1								
Acacia mearnsii	Black Wattle																																
Acacia paradoxa	Kangaroo Thorn																																
Acacia parramattensis	Parramatta Wattle																											5	1				
Acacia sp.	Wattle																					0.1	1	0.1	1					0.1	1		
Acaena ovina	Acaena																																
Agrostis capillaris	Browntop Bent																																
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass									0.1	1			5	1	0.5	1			1	1					2	1					0.5	1
Aira elegantissima	Delicate Hairgrass																																
Alternanthera denticulata	Lesser Joyweed																																
Alternanthera nana	Hairy Joyweed																																
Amaranthus retroflexus	Redroot Amaranth																																
Ammobium craspedioides	Yass Daisy																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301267		BY130126C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amyema miquelii	Box Mistletoe																																
Amyema sp.	Mistletoe																					0.2	1	0.2	1								
Anthoxanthum odoratum	Sweet Vernal Grass																																
Arctotheca calendula	Capeweed																																
Aristida acuta	-																																
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass																			0.1	1	0.2	1					0.1	1	0.1	1		
Aristida vagans	Threeawn Speargrass																					0.1	1					0.1	1			0.5	1
Arthropodium milleflorum	Pale Vanilla-lily																																
Arthropodium minus	Small Vanilla Lily																																
Asperula conferta	Common Woodruff																																
Astroloma humifusum	Native Cranberry																																
Astroloma pinifolium	Pine Heath																																
Austrostipa bigeniculata	Yanganbil																											0.2	1				
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa scabra	Speargrass	1	1																													0.1	1

Scientific Name	Common Name	BY1250258 4		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301267 8		BY130126C4		BY1301297 6	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Austrostipa scabra subsp. *scabra*	Rough Speargrass																																
Austrostipa sp.	A Speargrass																																
Austrostipa verticillata	Slender Bamboo Grass	0.5	1																														
Avena barbata	Bearded Oats																																
Avena fatua	Wild Oats							0.1	1																								
Avena sativa	Oats																																
Axonopus fissifolius	Narrow-leafed Carpet Grass	1	1																														
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass																																
Brachychiton populneus	Kurrajong																																
Brachyloma daphnoides	Daphne Heath																					0.1	1			0.5	1	0.2	1	1	1	0.1	1
Brachyscome dentata	-																									0.1	1						
Brassica rapa	-																																
Briza maxima	Quaking Grass									0.5	1									0.1	1					0.5	1						
Briza minor	Shivery Grass									0.1	1									0.1	1							0.1	1			0.1	1
Briza subaristata	-																									5	1						
Bromus cartharticus	Prairie Grass					0.1	1	0.5	1					0.2	1	0.1	1																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301678		BY1301 6C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome																																
Bromus hordeaceus	Soft Brome	5	1	5	1																												
Bromus molliformis	Soft Brome																																
Bromus rubens	Red Brome																																
Bromus sp.	A Brome																																
Bulbine bulbosa	Bulbine Lily																																
Bursaria spinosa	Native Blackthorn																																
Calochilus sp.	-																																
Calochlaena dubia	Rainbow Fern																																
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge							15	1											0.5	1												
Carex incomitata	-																																
Carex inversa	Knob Sedge																									0.1	1					0.1	1
Carex sp.	-																																
Carthamus lanatus	Saffron Thistle																																
Cassinia arcuata	Sifton Bush									1	1			0.1	1	0.1	1			0.5	1	0.1	1			8	1	20	1	0.1	1	0.5	1
Cassinia quinquefaria	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cassinia sp.	-																																
Cassytha melantha	-																																
Cassytha pubescens	Downy Dodder-laurel																																
Cassytha sp.	-																													0.1	1		
Celmisia longifolia	Snow Daisy																																
Centaurium erythraea	Common Centaury													0.1	1					0.1	1							0.1	1			0.1	1
Centaurium tenuiflorum	Branched Centaury, Slender Centaury																									0.1	1						
Cerastium glomeratum	Mouse-ear Chickweed																																
Chamaesyce drummondii	Caustic Weed																																
Cheilanthes sieberi	Rock Fern																											0.1	1				
Cheilanthes sieberi subsp. *sieberi*	Rock Fern																																
Cheiranthera linearis	Finger Flower																																
Chloris truncata	Windmill Grass	0.1	1																														
Chondrilla juncea	Skeleton Weed																			0.1	1												
Chrysocephalum apiculatum	Common Everlasting																															0.1	1
Cirsium arvense	Perennial Thistle	0.2	1																														
Cirsium vulgare	Spear Thistle					2	1	0.1	1					0.1	1	0.1	1	0.5	1	0.1	1							0.1	1				

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Comesperma ericinum	Pyramid Flower																																
Comesperma sphaerocarpum	-																			0.1	1							0.1	1				
Comesperma volubile	-																									0.1	1						
Convolvulus angustissimus	-																																
Convolvulus arvensis	Field Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane					0.1	1							0.1	1																		
Coronidium elatum	-																																
Cotula australis	Common Cotula																																
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard																															0.1	1
Cucumis myriocarpus	Paddy Melon																																
Cymbonotus lawsonianus	Bear's Ear																			0.1	1												
Cynodon dactylon	Common Couch					0.2	1									10	1																
Cynosurus echinatus	Rough Dog's Tail																			0.5	1												
Cyperus eragrostis	Umbrella Sedge																																
Cyperus gracilis	Slender Flat-sedge																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cyperus sanguinolentus	-																																
Dactylis glomerata	Cocksfoot							0.2	1									0.2	1														
Dactyloctenium aegyptium	Coast Button Grass																																
Daucus glochidiatus	Native Carrot																																
Daviesia mimosoides subsp. *mimosoides*	-																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil																											0.1	1				
Dianella caerulea	Blue Flax-lily																																
Dianella longifolia	Blueberry Lily																																
Dianella revoluta	Blueberry Lily									0.1	1	0.1	1																			0.1	1
Dichelachne crinita	Longhair Plumegrass																																
Dichelachne micrantha	Shorthair Plumegrass									0.1	1	0.1	1									0.5	1					0.1	1	0.1	1		
Dichelachne rara	-																									0.1	1						
Dichelachne sp.	A Plumegrass																																
Dichondra repens	Kidney Weed																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dichopogon sp.	Chocolate Lily																																
Digitaria ciliaris	Summer Grass																																
Digitaria diffusa	Open Summer-grass																																
Digitaria sanguinalis	Crab Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																																
Dillwynia sp.	-																							0.2	1								
Diuris sulphurea	Tiger Orchid																																
Drosera peltata	A Sundew																									0.1	1						
Dysphania pumilio	Small Crumbweed							0.5	1									0.1	1														
Dysphania sp.	-																																
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon ovatus	Forest Hedgehog Grass																																
Echinopogon sp.	A Hedgehog Grass																																
Echium plantagineum	Patterson's Curse	0.3	1			0.5	1																										
Einadia nutans	Climbing Saltbush																																

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Eleusine tristachya	Goose Grass	40	1	3	1	0.1	1																										
Elymus scaber	Common Wheatgrass																																
Enneapogon nigricans	Niggerheads																																
Enteropogon acicularis	Curly Windmill Grass																																
Epilobium billardierianum	-																																
Epilobium ciliatum	-																																
Eragrostis brownii	Brown's Lovegrass															0.1	1																
Eragrostis cilianensis	Stinkgrass																																
Eragrostis curvula	African Lovegrass																																
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass																																
Eragrostis parviflora	Weeping Lovegrass					0.1	1																					0.1	1			1	1
Eragrostis sp.	A Lovegrass													0.1	1																		
Eragrostis trachycarpa	A Lovegrass																																

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Erodium botrys	Long Storksbill																																
Erodium cicutarium	Common Crowfoot																																
Erodium moschatum	Musky Crowfoot																																
Eucalyptus albens	White Box																																
Eucalyptus blakelyi	Blakely's Red Gum							15	1									20	1														
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus cinerea	Argyle Apple							10	1									35	1														
Eucalyptus dives	Broad-leaved Peppermint																													0.1	1		
Eucalyptus goniocalyx	Bundy											5	1																				
Eucalyptus macrorhyncha	Red Stringybark											15	1									65	1	6	1	5	1	0.1	1				
Eucalyptus mannifera	Brittle Gum																																
Eucalyptus melliodora	Yellow Box							20	1	50	1									1	1												
Eucalyptus polyanthemos	Red Box																																
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum									2	1	25	1											25	1					50	1		

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Eucalyptus sp.	-																																
Euchiton involucratus	Star Cudweed																			0.1	1	0.1	1					0.1	1			0.1	1
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed							0.1	1					0.1	1	0.1	1	0.1	1	0.1	1											0.1	1
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass																																
Gamochaeta americana	Cudweed																									0.2	1						
Genoplesium sp.	-																																
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																																
Geranium solanderi	Native Geranium																			0.1	1												
Geranium solanderi var. *solanderi*	-																																
Geranium sp.	-																																
Glycine canescens	Silky Glycine																																
Glycine clandestina	Twining glycine																																
Gompholobium glabratum	Dainty Wedge Pea																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Gompholobium huegelii	Pale Wedge Pea																					0.1	1										
Gompholobium sp.	-																																
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort											0.1	1	0.1	1					0.1	1	0.1	1	0.2	1	0.8	1	0.1	1	0.1	1	0.1	1
Goodenia bellidifolia																																	
Goodenia hederacea	Ivy Goodenia									0.1	1	0.1	1							0.1	1	0.2	1	0.1	1	0.5	1			0.2	1		
Goodenia hederacea subsp. *hederacea*	-																											0.2	1			0.1	1
Goodenia sp.	-																																
Grevillea lanigera	Woolly Grevillea																																
Haloragis heterophylla	Variable Raspwort																																
Hardenbergia violacea	False Sarsaparilla																			0.1	1	0.1	1										
Hibbertia calycina	Lesser Guinea Flower									0.5	1											0.1	1										
Hibbertia obtusifolia	Hoary Guinea Flower									0.1	1									0.1	1	0.2	1	0.1	1	1	1			0.1	1	0.2	1
Hibbertia riparia	-																							0.1	1	0.1	1						
Hibbertia sp.	-																																
Holcus lanatus	Yorkshire Fog					50	1	20	1	0.1	1			0.5	1			1	1							0.1	1	0.1	1				
Hordeum leporinum	Barley Grass							0.1	1									0.1	1														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hordeum murinum	Barley-grass																																
Hovea heterophylla	-																					0.1	1	0.1	1			0.1	1				
Hovea lanceolata	-																																
Hovea linearis	-									0.1	1																						
Hydrocotyle laxiflora	Stinking Pennywort									1	1									0.1	1					0.1	1	0.1	1			0.1	1
Hypericum gramineum	Small St John's Wort																			0.1	1					0.2	1	0.1	1			0.1	1
Hypericum perforatum	St. Johns Wort					0.1	1																										
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear	10	1	3	1	10	1							1	1	1	1	0.1	1	0.1	1	0.1	1			0.5	1	0.1	1			0.1	1
Indigofera australis	Australian Indigo																																
Isotoma fluviatilis	Swamp Isotome																																
Isotoma fluviatilis subsp. *australis*	-																									0.2	1						
Juncaceae indeterminate	Rushes																																
Juncus australis	Rush					0.1	1	1	1																								
Juncus bufonius	Toad Rush																																
Juncus capitatus	-																			0.1	1												
Juncus continuus	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Juncus filicaulis	-																																
Juncus flavidus	-																																
Juncus sp.	A Rush													0.1	1											0.2	1	0.1	1				
Juncus subsecundus	Finger Rush																			0.3	1												
Juncus usitatus	-			0.8	1					0.1	1					0.1	1	0.1	1			0.1	1									0.1	1
Kunzea ericoides	Burgan									0.5	1																						
Lactuca serriola	Prickly Lettuce							0.1	1																								
Lasiopetalum sp.	-																																
Lepidosperma laterale	Variable Sword-sedge																													0.1	1		
Leptospermum multicaule	Silver Tea-tree																			0.1	1	0.1	1									0.2	1
Leptospermum sp.	Tea-tree																									1	1						
Leucochrysum albicans var. *tricolor*	Hoary Sunray																																
Leucopogon fletcheri	-											0.1	1																				
Leucopogon muticus	Blunt Beard-heath																							0.2	1								
Leucopogon sp.	A Beard-heath																					0.1	1							0.1	1		
Linaria pelisseriana	Pelisser's Toadflax																																
Linum trigynum	French Flax																																
Lissanthe strigosa	Peach Heath																																

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Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass																																
Lolium rigidum	Wimmera Ryegrass					0.1	1																										
Lomandra bracteata	Mat-rush																																
Lomandra confertifolia	Matrush									0.1	1	0.1	1																				
Lomandra filiformis	Wattle Matt-rush									1	1																						
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																			0.5	1	0.5	1	0.1	1	0.5	1	0.5	1	0.5	1	0.2	1
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush									5	1	0.1	1					0.1	1														
Lomandra longifolia	Spiny-headed Mat-rush																			0.1	1			0.8	1								
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush									0.1	1	0.1	1									0.1	1									0.1	1
Luzula densiflora	Woodrush																			0.1	1	0.1	1			2	1	0.1	1				
Lysimachia arvensis	Scarlet Pimpernel																																
Lythrum hyssopifolia	Hyssop Loosestrife	0.5	1	0.5	1																												

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Malus domestica	Apple							0.2	1																								
Malva neglecta	Dwarf Mallow																																
Malva parviflora	Small-flowered Mallow																	0.1	1														
Marrubium vulgare	White Horehound																																
Medicago minima	Woolly Burr Medic																																
Megathyrsus maximus	-																																
Melichrus urceolatus	Urn Heath									0.5	1	0.1	1							0.1	1	0.2	1	0.1	1	0.5	1	0.1	1	0.1	1	0.1	1
Mentha pulegium	Pennyroyal																																
Mentha satureioides	Native Pennyroyal																																
Microlaena stipoides	Weeping Grass					2	1	15	1					5	1	0.1	1	1	1			2	1			20	1						
Microlaena stipoides var. *stipoides*	Weeping Grass																			5	1							75	1	0.1	1	35	1
Microtis parviflora	Slender Onion Orchid																									0.1	1						
Microtis rara	Scented Onion Orchid																																
Microtis sp.	-									0.1	1																	0.1	1			0.1	1
Mirbelia oxylobioides	Mountain Mirbelia																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Modiola caroliniana	Red-flowered Mallow					0.2	1																										
Monotoca scoparia	-																																
Nassella neesiana	Chilean Needle Grass																																
Nassella trichotoma	Serrated Tussock																																
Nothoscordum inodorum	Onion Weed																																
Onopordum acanthium	Scotch Thistle																																
Opercularia diphylla	Stinkweed																													0.1	1		
Opercularia varia	Variable Stinkweed																																
Orchidaceae indeterminate	Orchids																																
Orobanche minor	Broomrape																																
Oxalis exilis	-																																
Oxalis perennans	-																											0.1	1			0.1	1
Oxalis sp.	-																																
Oxalis thompsoniae	-					0.5	1																										
Panicum capillare	Witchgrass																																
Panicum effusum	Hairy Panic													0.2	1	0.1	1															0.1	1
Panicum simile	Two-colour Panic			0.1	1																												
Panicum sp.	Panicum																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																																
Paspalum dilatatum	Paspalum					1	1																										
Patersonia sericea	Silky Purple-Flag																							0.5	1								
Patersonia sp.	-																																
Persicaria prostrata	Creeping Knotweed																																
Persoonia rigida	-																																
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink																																
Phalaris aquatica	Phalaris	10	1	80	1			0.1	1					1	1	1	1																
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																																
Phytolacca octandra	Inkweed																																
Pimelea linifolia	Slender Rice Flower											0.1	1																				
Plantago lanceolata	Lamb's Tongues							0.1	1																								
Plantago varia	-																																
Poa labillardierei	Tussock																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY13012678		BY130126C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
var. *labillardierei*																																	
Poa sieberiana	Snowgrass																			0.2	1	10	1			0.8	1					0.1	1
Poa sieberiana var. *cyanophylla*	-									2	1	1	1					5	1														
Poa sieberiana var. *sieberiana*	Snowgrass																																
Poa sp.	-																																
Polycarpon tetraphyllum	Four-leaved Allseed																																
Polygonum aviculare	Wireweed					0.1	1	0.1	1																								
Polygonum sp.	-																																
Polypogon monspeliensis	Annual Beardgrass																									0.1	1						
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera											0.1	1					0.1	1			0.1	1	0.1	1					0.1	1		
Pseudognaphalium luteoalbum	Jersey Cudweed													0.1	1	0.1	1																
Pultenaea microphylla	A Bush Pea																																
Pultenaea procumbens	-																																
Pultenaea sp.	-																																
Pultenaea subspicata	Low Bush-pea																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301678		BY13012 6C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rhytidosporum procumbens	-																							0.1	1					0.1	1		
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar							5	1																								
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex																																
Rumex acetosella	Sheep Sorrel	0.2	1	0.1	1			0.1	1					5	1	10	1	1	1													0.1	1
Rumex brownii	Swamp Dock					0.1	1	0.1	1																								
Rumex crispus	Curled Dock							0.2	1																								
Rytidosperma auriculatum	Lobed Wallaby Grass																																
Rytidosperma caespitosum	Ringed Wallaby Grass					5	1	0.1	1	0.1	1					5	1																
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma duttonianum	Brown-back Wallaby Grass																																
Rytidosperma erianthum	Wallaby Grass																																
Rytidosperma fulvum	Wallaby Grass									1	1			0.1	1	5	1																
Rytidosperma laeve	Wallaby Grass																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY13012678		BY130126C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass									50	1	20	1									1	1	70	1	0.4	1	0.5	1	0.1	1		
Rytidosperma racemosum	Wallaby Grass	35	1	0.1	1									40	1	15	1	50	1					0.1	1	35	1						
Rytidosperma setaceum	Small-flowered Wallaby-grass																																
Rytidosperma sp.	-																			20	1	0.5	1					1.5	2	0.1	1	20.5	2
Schoenus apogon	Fluke Bogrush																	0.5	1							25	1	0.1	1			0.5	1
Schoenus sp.	-																																
Scleranthus biflorus	Two-flowered Knawel																																
Scutellaria humilis	Dwarf Skullcap																																
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed																																
Setaria italica	Foxtail Millet																																
Setaria parviflora	-					0.2	1	0.1	1					0.1	1	0.1	1																
Setaria sp.	-																																
Setaria verticillata	Whorled Pigeon Grass																																
Sida sp. *A*	-																																
Silybum marianum	Variegated Thistle																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301678		BY13012 6C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sisyrinchium micranthum	Blue Pigroot																														
Solanum nigrum	Black-berry Nightshade																	0.1	1												
Solenogyne dominii	-																													0.1	1
Sonchus asper	Prickly Sowthistle																														
Sonchus oleraceus	Common Sowthistle																	0.1	1												
Spergularia rubra	Sandspurry													0.1	1	0.1	1														
Stellaria media	Common Chickweed																														
Stylidium graminifolium	Grass Triggerplant																														
Stylidium lineare	Narrow-leaved Triggerplant																														
Stypandra glauca	Nodding Blue Lily																														
Taraxacum officinale	Dandelion																			0.1	1										
Thelymitra sp.	-																									0.1	1				
Themeda triandra	Kangaroo Grass									0.2	1									20	1	0.5	1			10	1	0.1	1		1	1
Thysanotus tuberosus	Common Fringe-lily																							0.1	1						
Thysanotus tuberosus	-																														

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY13012678		BY13012 6C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
subsp. *tuberosus*																																	
Tolpis barbata	Yellow Hawkweed																																
Tolpis umbellata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																																
Trifolium angustifolium	Narrow-leaved Clover																																
Trifolium arvense	Haresfoot Clover																																
Trifolium campestre	Hop Clover																											0.1	1			0.1	1
Trifolium dubium	Yellow Suckling Clover																																
Trifolium glomeratum	Clustered Clover													0.1	1																		
Trifolium repens	White Clover			0.5	1			0.2	1																								
Trifolium subterraneum	Subterranean Clover													5	1	1	1																
Triptilodiscus pygmaeus	Common Sunray																									0.1	1						
Urtica incisa	Stinging Nettle																																
Urtica urens	Small Nettle																																
Velleia paradoxa	-																																
Verbascum thapsus	Aarons Rod																																

Scientific Name	Common Name	BY12502584		BY125D90		BY128E98		BY128F52		BY1300903B		BY1300E6B		BY13010602		BY13010D40		BY13010FC9		BY13011940		BY13011EC5		BY1301201		BY1301202		BY1301267		BY13012 6C4		BY13012976	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Veronica calycina	Hairy Speedwell																																
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue	1	1			0.1	1							0.5	1	5	1	1	1	0.1	1	0.1	1			5	1						
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																									0.1	1						
Wahlenbergia luteola	Bluebell															0.1	1																
Wahlenbergia multicaulis	Tadgell's Bluebell									0.1	1					0.1	1											0.1	1				
Wahlenbergia sp.	Bluebell																			0.1	1	0.1	1										
Wahlenbergia stricta	Tall Bluebell																																
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell																																
Xanthium spinosum	Bathurst Burr																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 11: Murrumbateman BAM floristic data

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle															2	1	0.1	1			0.2	1	0.2	1	0.1	1						
Acacia deanei	Green Wattle																													0.1	1		
Acacia decurrens	Black Wattle																																
Acacia falciformis	Broad-leaved Hickory											0.5	1																				
Acacia gunnii	Ploughshare Wattle									0.1	1					0.1	1					0.1	1	0.1	1	0.1	1						
Acacia havilandiorum	Haviland's Wattle											0.1	1																				
Acacia mearnsii	Black Wattle																																
Acacia paradoxa	Kangaroo Thorn																																
Acacia parramattensis	Parramatta Wattle																											0.1	1				
Acacia sp.	Wattle	0.1	1							0.2	1	0.2	1																				
Acaena ovina	Acaena																																
Agrostis capillaris	Browntop Bent													5	1																		
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass			0.1	1	0.1	1					2	1	0.2	1									0.1	1					0.1	1		
Aira elegantissima	Delicate Hairgrass																											1	1				
Alternanthera denticulata	Lesser Joyweed																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Alternanthera nana	Hairy Joyweed																																
Amaranthus retroflexus	Redroot Amaranth																																
Ammobium craspedioides	Yass Daisy																																
Amyema miquelii	Box Mistletoe																																
Amyema sp.	Mistletoe																													0.2	1		
Anthoxanthum odoratum	Sweet Vernal Grass																																
Arctotheca calendula	Capeweed																																
Aristida acuta	-																																
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass	0.1	1													0.5	1					0.5	1	0.5	1	0.5	1						
Aristida vagans	Threeawn Speargrass									5	1			10	1	10	1	5	1	5	1	3	1	20	1	5	1						
Arthropodium milleflorum	Pale Vanilla-lily																																
Arthropodium minus	Small Vanilla Lily																																
Asperula conferta	Common Woodruff																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Astroloma humifusum	Native Cranberry																																
Astroloma pinifolium	Pine Heath																																
Austrostipa bigeniculata	Yanganbil					0.5	1																										
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa scabra	Speargrass			1	1											0.5	1											0.1	1	0.5	1		
Austrostipa scabra subsp. *scabra*	Rough Speargrass																																
Austrostipa sp.	A Speargrass			0.1	1																												
Austrostipa verticillata	Slender Bamboo Grass																																
Avena barbata	Bearded Oats																																
Avena fatua	Wild Oats																																
Avena sativa	Oats																																
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass																																
Brachychiton populneus	Kurrajong																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Brachyloma daphnoides	Daphne Heath	0.1	1					0.1	1	0.1	1	2	1					0.1	1	0.1	1												
Brachyscome dentata	-																																
Brassica rapa	-																																
Briza maxima	Quaking Grass													0.1	1	0.1	1	0.1	1													0.1	1
Briza minor	Shivery Grass			0.1	1	1	1							0.5	1	0.1	1	0.1	1			0.5	1	0.1	1			1	1				
Briza subaristata	-											0.1	1																				
Bromus cartharticus	Prairie Grass																																
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome																																
Bromus hordeaceus	Soft Brome																																
Bromus molliformis	Soft Brome																											0.5	1			0.5	1
Bromus rubens	Red Brome																																
Bromus sp.	A Brome																																
Bulbine bulbosa	Bulbine Lily																																
Bursaria spinosa	Native Blackthorn																																
Calochilus sp.	-									0.1	1	0.1	1																				
Calochlaena dubia	Rainbow Fern											25	1																				
Capsella bursa-pastoris	Shepherd's Purse																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge			0.1	1																							0.5	1			0.5	1
Carex incomitata	-																																
Carex inversa	Knob Sedge																															1	1
Carex sp.	-																																
Carthamus lanatus	Saffron Thistle																																
Cassinia arcuata	Sifton Bush	0.1	1	0.1	1	0.1	1	0.1	1			1	1	0.1	1	1	1	0.1	1			0.1	1	0.1	1	0.1	1						
Cassinia quinquefaria	-																																
Cassinia sp.	-			0.1	1																												
Cassytha melantha	-																																
Cassytha pubescens	Downy Dodder-laurel											0.1	1																				
Cassytha sp.	-																																
Celmisia longifolia	Snow Daisy																																
Centaurium erythraea	Common Centaury					0.1	1							0.1	1	0.1	1			0.1	1	0.1	1	0.2	1			0.1	1				
Centaurium tenuiflorum	Branched Centaury, Slender centaury											0.1	1																				
Cerastium glomeratum	Mouse-ear Chickweed																																
Chamaesyce drummondii	Caustic Weed																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cheilanthes sieberi	Rock Fern											0.2	1	0.1	1	0.1	1							0.1	1								
Cheilanthes sieberi subsp. *sieberi*	Rock Fern																																
Cheiranthera linearis	Finger Flower							0.1	1	0.1	1																						
Chloris truncata	Windmill Grass																											1	1				
Chondrilla juncea	Skeleton Weed																																
Chrysocephalum apiculatum	Common Everlasting																																
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle			0.1	1																							0.1	1			0.2	1
Comesperma ericinum	Pyramid Flower											0.1	1																				
Comesperma sphaerocarpum	-															0.1	1	0.1	1	0.1	1					0.1	1						
Comesperma volubile	-									0.1	1	0.1	1																				
Convolvulus angustissimus	-																																
Convolvulus arvensis	Field Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane																											0.1	1				
Coronidium elatum	-											0.1	1																				
Cotula australis	Common Cotula																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard													0.1	1																		
Cucumis myriocarpus	Paddy Melon																																
Cymbonotus lawsonianus	Bear's Ear																																
Cynodon dactylon	Common Couch																											1	1				
Cynosurus echinatus	Rough Dog's Tail																											0.5	1			0.1	1
Cyperus eragrostis	Umbrella Sedge																																
Cyperus gracilis	Slender Flat-sedge																																
Cyperus sanguinolentus	-			0.1	1													0.1	1														
Dactylis glomerata	Cocksfoot													0.1	1																		
Dactyloctenium aegyptium	Coast Button Grass																																
Daucus glochidiatus	Native Carrot																																
Daviesia mimosoides subsp. *mimosoides*	-																	0.5	1	0.3	1	0.1	1	0.1	1	0.5	1						
Desmodium gunnii	Slender Tick-trefoil																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Desmodium varians	Slender Tick-trefoil																																
Dianella caerulea	Blue Flax-lily							0.1	1	0.1	1	0.5	1			0.2	1																
Dianella longifolia	Blueberry Lily																	0.5	1														
Dianella revoluta	Blueberry Lily																			1	1									0.1	1		
Dichelachne crinita	Longhair Plumegrass																																
Dichelachne micrantha	Shorthair Plumegrass	0.1	1													1	1	0.1	1			1	1										
Dichelachne rara	-							0.1	1																								
Dichelachne sp.	A Plumegrass											0.1	1																				
Dichondra repens	Kidney Weed																																
Dichopogon sp.	Chocolate Lily																																
Digitaria ciliaris	Summer Grass																																
Digitaria diffusa	Open Summer-grass																																
Digitaria sanguinalis	Crab Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																	0.1	1	0.1	1												
Dillwynia sp.	-							0.1	1	0.3	1	10	1																				
Diuris sulphurea	Tiger Orchid																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Drosera peltata	A Sundew									0.1	1	0.1	1																				
Dysphania pumilio	Small Crumbweed			0.1	1																							0.1	1				
Dysphania sp.	-																																
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon ovatus	Forest Hedgehog Grass																																
Echinopogon sp.	A Hedgehog Grass																																
Echium plantagineum	Patterson's Curse																																
Einadia nutans	Climbing Saltbush																																
Eleusine tristachya	Goose Grass																																
Elymus scaber	Common Wheatgrass			0.1	1	0.5	1																										
Enneapogon nigricans	Niggerheads																																
Enteropogon acicularis	Curly Windmill Grass																																
Epilobium billardierianum	-																											0.1	1				
Epilobium ciliatum	-																																
Eragrostis brownii	Brown's Lovegrass																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eragrostis cilianensis	Stinkgrass																																
Eragrostis curvula	African Lovegrass																																
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass																																
Eragrostis parviflora	Weeping Lovegrass			0.1	1											0.1	1	0.2	1			0.1	1					10	1			1	1
Eragrostis sp.	A Lovegrass					5	1							0.1	1							0.1	1										
Eragrostis trachycarpa	A Lovegrass																																
Erodium botrys	Long Storksbill																																
Erodium cicutarium	Common Crowfoot																																
Erodium moschatum	Musky Crowfoot																																
Eucalyptus albens	White Box																																
Eucalyptus blakelyi	Blakely's Red Gum																																
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus cinerea	Argyle Apple																																
Eucalyptus dives	Broad-leaved																																

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
	Peppermint																																
Eucalyptus goniocalyx	Bundy	0.1	1					25	1			0.1	1																	1	1		
Eucalyptus macrorhyncha	Red Stringybark	60	1					6	1									25	1					0.5	1	2	1			5	1		
Eucalyptus mannifera	Brittle Gum																	5	1	5	1												
Eucalyptus melliodora	Yellow Box			20	1																												
Eucalyptus polyanthemos	Red Box																																
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum							20	1	10	1	0.1	1													10	1						
Eucalyptus sp.	-																																
Euchiton involucratus	Star Cudweed															0.1	1					0.1	1					0.1	1	0.1	1	0.1	1
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed			0.1	1	0.1	1							0.1	1									0.1	1			0.1	1				
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Gamochaeta americana	Cudweed											0.1	1	0.1	1													0.1	1				
Genoplesium sp.	-																			0.1	1					0.1	1				
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																															0.1	1
Geranium solanderi	Native Geranium																																
Geranium solanderi var. *solanderi*	-																																
Geranium sp.	-																																
Glycine canescens	Silky Glycine																																
Glycine clandestina	Twining glycine																																
Gompholobium glabratum	Dainty Wedge Pea									0.1	1	0.3	1																				
Gompholobium huegelii	Pale Wedge Pea																			0.1	1					0.1	1						
Gompholobium sp.	-																	0.1	1														
Gonocarpus elatus	A Raspwort							0.1	1	0.1	1	0.5	1																				
Gonocarpus tetragynus	Poverty Raspwort	0.1	1	0.1	1									0.5	1	0.1	1	0.1	1	0.1	1	0.1	1	0.2	1	0.1	1			0.3	1		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Goodenia bellidifolia	-									1	1	0.2	1																				
Goodenia hederacea	Ivy Goodenia	0.5	1					0.2	1	0.1	1	0.1	1	0.1	1																		
Goodenia hederacea subsp. *hederacea*	-															0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1			0.1	1		
Goodenia sp.	-																																
Grevillea lanigera	Woolly Grevillea															0.1	1																
Haloragis heterophylla	Variable Raspwort													0.1	1																	0.1	1
Hardenbergia violacea	False Sarsaparilla							0.1	1									0.1	1	0.1	1									0.1	1		
Hibbertia calycina	Lesser Guinea Flower																																
Hibbertia obtusifolia	Hoary Guinea Flower	0.1	1					0.1	1			1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1			0.1	1		
Hibbertia riparia	-																																
Hibbertia sp.	-									0.1	1																						
Holcus lanatus	Yorkshire Fog			0.1	1																	0.1	1					5	1	0.5	1	20	1
Hordeum leporinum	Barley Grass																																
Hordeum murinum	Barley-grass																																
Hovea heterophylla	-	0.1	1					0.1	1	0.1	1							0.1	1			0.1	1	0.1	1	0.1	1						
Hovea lanceolata	-																																
Hovea linearis	-											0.1	1																				

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hydrocotyle laxiflora	Stinking Pennywort							0.2	1									0.1	1											0.1	1		
Hypericum gramineum	Small St John's Wort					0.1	1					0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1
Hypericum perforatum	St. Johns Wort																																
Hypochaeris glabra	Smooth Catsear																	0.1	1														
Hypochaeris radicata	Catsear			0.1	1	0.1	1	0.1	1							0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1
Indigofera australis	Australian Indigo	0.1	1																														
Isotoma fluviatilis	Swamp Isotome																											0.1	1				
Isotoma fluviatilis subsp. *australis*	-																																
Juncaceae indeterminate	Rushes			0.1	1																												
Juncus australis	Rush																																
Juncus bufonius	Toad Rush			0.1	1																							0.1	1			0.1	1
Juncus capitatus	-					0.5	1																					0.1	1				
Juncus continuus	-																																
Juncus filicaulis	-					0.2	1																					0.2	1	0.1	1		
Juncus flavidus	-																																
Juncus sp.	A Rush													0.2	2																	0.1	1
Juncus subsecundus	Finger Rush																											0.5	1			0.1	1

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Juncus usitatus	-			0.1	1													0.1	1														
Kunzea ericoides	Burgan																			0.1	1												
Lactuca serriola	Prickly Lettuce																																
Lasiopetalum sp.	-							0.1	1																								
Lepidosperma laterale	Variable Sword-sedge							0.1	1									0.1	1														
Leptospermum multicaule	Silver Tea-tree													0.5	1	0.1	1			1	1					1	1						
Leptospermum sp.	Tea-tree											5	1																				
Leucochrysum albicans var. *tricolor*	Hoary Sunray																																
Leucopogon fletcheri	-																																
Leucopogon muticus	Blunt Beard-heath																																
Leucopogon sp.	A Beard-heath	0.1	1																														
Linaria pelisseriana	Pelisser's Toadflax																																
Linum trigynum	French Flax																																
Lissanthe strigosa	Peach Heath									0.1	1																						
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass																											0.1	1				
Lolium rigidum	Wimmera Ryegrass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lomandra bracteata	Mat-rush																					0.1	1										
Lomandra confertifolia	Matrush																																
Lomandra filiformis	Wattle Matt-rush																																
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush	0.1	1	0.1	1	0.1	1	0.1	1	0.3	1			0.2	1	1	1	0.1	1	0.1	1	0.2	1	0.5	1	0.5	1	0.1	1	0.5	1		
Lomandra filiformis subsp. *filiformis*	-							0.1	1																								
Lomandra glauca	Pale Mat-rush																																
Lomandra longifolia	Spiny-headed Mat-rush	2	1																														
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush											1	1			0.1	1					0.1	1										
Luzula densiflora	Woodrush											0.1	1	0.1	1	0.1	1	0.1	1			0.1	1	0.1	1								
Lysimachia arvensis	Scarlet Pimpernel																											0.1	1				
Lythrum hyssopifolia	Hyssop Loosestrife																											0.1	1				
Malus domestica	Apple																																
Malva neglecta	Dwarf Mallow																																
Malva parviflora	Small-flowered Mallow																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Marrubium vulgare	White Horehound																																
Medicago minima	Woolly Burr Medic																																
Megathyrsus maximus	-																																
Melichrus urceolatus	Urn Heath	0.1	1					0.1	1	0.5	1	0.5	1	0.5	1	0.5	1	0.1	1	0.5	1	0.2	1	0.1	1	0.1	1			0.1	1		
Mentha pulegium	Pennyroyal																																
Mentha satureioides	Native Pennyroyal																																
Microlaena stipoides	Weeping Grass							0.1	1	10	1	10	1																				
Microlaena stipoides var. *stipoides*	Weeping Grass			1	1	55	1							40	1	10	1	10	1			25	1	15	1	1	1	40	1	3	1	35	1
Microtis parviflora	Slender Onion Orchid											0.1	1																				
Microtis rara	Scented Onion Orchid																																
Microtis sp.	-													0.1	1	0.1	1			0.1	1	0.1	1	0.1	1			0.1	1				
Mirbelia oxylobioides	Mountain Mirbelia																																
Modiola caroliniana	Red-flowered Mallow																																
Monotoca scoparia	-																									0.1	1						
Nassella neesiana	Chilean Needle Grass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Nassella trichotoma	Serrated Tussock			0.1	1																												
Nothoscordum inodorum	Onion Weed																																
Onopordum acanthium	Scotch Thistle																																
Opercularia diphylla	Stinkweed															0.1	1	0.1	1			0.1	1	0.1	1								
Opercularia varia	Variable Stinkweed							0.1	1																								
Orchidaceae indeterminate	Orchids															0.1	1			0.1	1			0.1	1	0.1	1						
Orobanche minor	Broomrape																																
Oxalis exilis	-																																
Oxalis perennans	-			0.1	1	0.1	1																	0.1	1					0.1	1		
Oxalis sp.	-																																
Oxalis thompsoniae	-																																
Panicum capillare	Witchgrass																																
Panicum effusum	Hairy Panic													1	1	0.5	1											1	1				
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																																
Paspalum dilatatum	Paspalum																											0.5	1				

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Patersonia sericea	Silky Purple-Flag																																
Patersonia sp.	-																			0.1	1												
Persicaria prostrata	Creeping Knotweed																																
Persoonia rigida	-																							0.1	1	0.1	1						
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink			0.1	1									0.1	1													0.1	1				
Phalaris aquatica	Phalaris																																
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																																
Phytolacca octandra	Inkweed																													0.1	1		
Pimelea linifolia	Slender Rice Flower																	0.1	1							0.1	1						
Plantago lanceolata	Lamb's Tongues																																
Plantago varia	-																																
Poa labillardierei var. *labillardierei*	Tussock																	0.1	1														
Poa sieberiana	Snowgrass							1	1	5	1	1	1			0.5	1	1	1	1	1	1	1	5	1	10	1			1	1		
Poa sieberiana var. *cyanophylla*	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Poa sieberiana var. *sieberiana*	Snowgrass																																
Poa sp.	-																																
Polycarpon tetraphyllum	Four-leaved Allseed			0.1	1																												
Polygonum aviculare	Wireweed																																
Polygonum sp.	-																																
Polypogon monspeliensis	Annual Beardgrass																																
Pomax umbellata	Pomax	0.1	1																														
Poranthera microphylla	Small Poranthera	0.1	1					0.1	1	0.1	1	0.1	1					0.1	1	0.1	1					0.1	1			0.1	1		
Pseudognaphalium luteoalbum	Jersey Cudweed																											0.1	1				
Pultenaea microphylla	A Bush Pea																																
Pultenaea procumbens	-																																
Pultenaea sp.	-																																
Pultenaea subspicata	Low Bush-pea																	0.1	1														
Rhytidosporum procumbens	-	0.1	1							0.1	1	0.1	1							0.1	1			0.1	1	0.1	1						
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex																																
Rumex acetosella	Sheep Sorrel			0.1	1	0.1	1																					0.5	1	0.1	1	0.2	1
Rumex brownii	Swamp Dock																											0.1	1			0.1	1
Rumex crispus	Curled Dock																																
Rytidosperma auriculatum	Lobed Wallaby Grass																																
Rytidosperma caespitosum	Ringed Wallaby Grass					10	1																										
Rytidosperma carphoides	Short Wallaby Grass																											0.5	1				
Rytidosperma duttonianum	Brown-back Wallaby Grass																							1	1	1	1			1	1		
Rytidosperma erianthum	Wallaby Grass																											0.5	1	20	1		
Rytidosperma fulvum	Wallaby Grass																																
Rytidosperma laeve	Wallaby Grass																					1	1										
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass	1	1	0.1	1			5	1	50	1			0.1	1	0.5	1	20	1	45	1			2	1	5	1						

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma racemosum	Wallaby Grass			5	1			0.1	1	2	1																						
Rytidosperma setaceum	Small-flowered Wallaby-grass																																
Rytidosperma sp.	-	0.1	1			0.5	1					32	3	2	1	2.5	2	1	1	1	1			0.2	1							1	1
Schoenus apogon	Fluke Bogrush			0.1	1							0.1	1	1	1	0.5	1	0.5	1	0.1	1	0.5	1	1	1	0.5	1	1	1			0.5	1
Schoenus sp.	-																																
Scleranthus biflorus	Two-flowered Knawel													0.1	1																		
Scutellaria humilis	Dwarf Skullcap																																
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed							0.1	1																								
Setaria italica	Foxtail Millet																																
Setaria parviflora	-																																
Setaria sp.	-					0.1	1																					1	1			0.5	1
Setaria verticillata	Whorled Pigeon Grass																																
Sida sp. *A*	-																																
Silybum marianum	Variegated Thistle																																
Sisyrinchium micranthum	Blue Pigroot																																
Solanum nigrum	Black-berry			0.1	1																												

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
	Nightshade																																
Solenogyne dominii	-					0.1	1																										
Sonchus asper	Prickly Sowthistle																																
Sonchus oleraceus	Common Sowthistle																																
Spergularia rubra	Sandspurry			0.1	1																												
Stellaria media	Common Chickweed																																
Stylidium graminifolium	Grass Triggerplant																	0.1	1	0.1	1					0.1	1						
Stylidium lineare	Narrow-leaved Triggerplant									0.1	1	0.1	1																				
Stypandra glauca	Nodding Blue Lily							0.1	1																								
Taraxacum officinale	Dandelion																																
Thelymitra sp.	-																																
Themeda triandra	Kangaroo Grass			0.1	1													0.5	1	0.5	1	20	1	1	1			5	1			3	1
Thysanotus tuberosus	Common Fringe-lily											0.1	1																				
Thysanotus tuberosus subsp. *tuberosus*	-							0.1	1																								

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Tolpis barbata	Yellow Hawkweed																																
Tolpis umbellata	Yellow Hawkweed													0.1	1	0.1	1																
Tricoryne elatior	Yellow Autumn-lily																											0.1	1				
Trifolium angustifolium	Narrow-leaved Clover			0.1	1									0.1	1																		
Trifolium arvense	Haresfoot Clover																											0.1	1				
Trifolium campestre	Hop Clover					0.1	1																										
Trifolium dubium	Yellow Suckling Clover																											0.1	1			0.1	1
Trifolium glomeratum	Clustered Clover																																
Trifolium repens	White Clover													0.1	1																		
Trifolium subterraneum	Subterranean Clover																											1	1			1	1
Triptilodiscus pygmaeus	Common Sunray											0.1	1	0.1	1													0.1	1				
Urtica incisa	Stinging Nettle																																
Urtica urens	Small Nettle																																
Velleia paradoxa	-																	0.1	1	0.1	1												
Verbascum thapsus	Aarons Rod																																
Veronica calycina	Hairy Speedwell															0.1	1	0.1	1					0.1	1					0.1	1		

Scientific Name	Common Name	BY13012 ACE		BY13014 37A		BY13014 6D8		BY1301 501		BY1301 502		BY1301 503		BY13016 95A		BY13017 09A		BY13017 23F		BY13017 BFB		BY13017 C4F		BY13018 553		BY13018 AB5		BY13019 01C		BY13019 16A		BY13019 23A	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																					0.1	1	0.1	1	0.1	1						
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue			10	1	0.1	1					0.1	1	0.1	1							0.1	1					0.1	1	0.1	1		
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell							0.1	1			0.1	1																				
Wahlenbergia luteola	Bluebell																																
Wahlenbergia multicaulis	Tadgell's Bluebell													0.1	1	0.1	1					0.1	1										
Wahlenbergia sp.	Bluebell			0.1	1	0.1	1																					0.1	1	0.1	1		
Wahlenbergia stricta	Tall Bluebell																																
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell																																
Xanthium spinosum	Bathurst Burr																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 12: Murrumbateman BAM floristic data

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																	2	1													
Acacia deanei	Green Wattle			0.1	1																										
Acacia decurrens	Black Wattle																														
Acacia falciformis	Broad-leaved Hickory																														
Acacia gunnii	Ploughshare Wattle																														
Acacia havilandiorum	Haviland's Wattle																														
Acacia mearnsii	Black Wattle																					5	1								
Acacia paradoxa	Kangaroo Thorn																														
Acacia parramattensis	Parramatta Wattle																														
Acacia sp.	Wattle																														
Acaena ovina	Acaena																														
Agrostis capillaris	Browntop Bent																														
Aira caryophyllea	Silvery Hairgrass																														
Aira cupaniana	Silvery Hairgrass	1	1							0.5	1																				
Aira elegantissima	Delicate Hairgrass							0.1	1			0.5	1																		
Alternanthera denticulata	Lesser Joyweed																														
Alternanthera nana	Hairy Joyweed																										0.2	1			
Amaranthus retroflexus	Redroot Amaranth																							0.1	1						
Ammobium craspedioides	Yass Daisy																														

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amyema miquelii	Box Mistletoe																					0.5	1										
Amyema sp.	Mistletoe																																
Anthoxanthum odoratum	Sweet Vernal Grass																																
Arctotheca calendula	Capeweed							0.5	1			0.1	1			0.1	1							0.1	1								
Aristida acuta	-																																
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass	1	1	0.5	1					1	1			1	1																		
Aristida vagans	Threeawn Speargrass	5	1	1	1					20	1																						
Arthropodium milleflorum	Pale Vanilla-lily																																
Arthropodium minus	Small Vanilla Lily																																
Asperula conferta	Common Woodruff																																
Astroloma humifusum	Native Cranberry																			0.1	1												
Astroloma pinifolium	Pine Heath																																
Austrostipa bigeniculata	Yanganbil	0.1	1			5	1																										
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa scabra	Speargrass	0.5	1	5	1	0.5	1			0.5	1	5	1	0.5	1					50	1	2	1			2	1						
Austrostipa scabra subsp. *scabra*	Rough Speargrass																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Austrostipa sp.	A Speargrass																									5	1						
Austrostipa verticillata	Slender Bamboo Grass					0.1	1																										
Avena barbata	Bearded Oats									0.1	1																					1	1
Avena fatua	Wild Oats																																
Avena sativa	Oats																													5	1		
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass					0.1	1			3	1			5	1							5	1									2	1
Brachychiton populneus	Kurrajong																																
Brachyloma daphnoides	Daphne Heath																			2	1												
Brachyscome dentata	-																																
Brassica rapa	-																																
Briza maxima	Quaking Grass	0.1	1	0.2	1													1	1	2	1												
Briza minor	Shivery Grass	0.1	1							0.2	1																						
Briza subaristata	-																																
Bromus cartharticus	Prairie Grass																					0.5	1										
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG0130F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Bromus hordeaceus	Soft Brome																							0.5	1					0.1	1		
Bromus molliformis	Soft Brome	0.1	1			1	1	10	1			0.2	1	0.5	1																		
Bromus rubens	Red Brome																																
Bromus sp.	A Brome																																
Bulbine bulbosa	Bulbine Lily																																
Bursaria spinosa	Native Blackthorn																																
Calochilus sp.	-																																
Calochlaena dubia	Rainbow Fern																																
Capsella bursa-pastoris	Shepherd's Purse																							0.1	1								
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge																					0.1	1										
Carex incomitata	-											0.1	1																				
Carex inversa	Knob Sedge	0.1	1			0.1	1			0.1	1			0.1	1																		
Carex sp.	-																																
Carthamus lanatus	Saffron Thistle																																
Cassinia arcuata	Sifton Bush	0.1	1			0.1	1			0.1	1									1	1	1	1										
Cassinia quinquefaria	-																																
Cassinia sp.	-																																
Cassytha melantha	-																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cassytha pubescens	Downy Dodder-laurel																																
Cassytha sp.	-																																
Celmisia longifolia	Snow Daisy																																
Centaurium erythraea	Common Centaury	0.1	1	0.1	1			0.1	1	0.1	1	0.1	1	0.1	1			0.1	1			0.1	1										
Centaurium tenuiflorum	Branched Centaury, Slender centaury																																
Cerastium glomeratum	Mouse-ear Chickweed															0.1	1																
Chamaesyce drummondii	Caustic Weed																									0.1	1						
Cheilanthes sieberi	Rock Fern			0.1	1					0.1	1																						
Cheilanthes sieberi subsp. *sieberi*	Rock Fern																																
Cheiranthera linearis	Finger Flower																																
Chloris truncata	Windmill Grass							0.1	1			0.5	1																				
Chondrilla juncea	Skeleton Weed					0.1	1			0.1	1									0.1	1	0.1	1										
Chrysocephalum apiculatum	Common Everlasting																	0.1	1														
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle	0.1	1			0.1	1	0.1	1													0.1	1					0.2	1	0.2	1	0.5	1
Comesperma ericinum	Pyramid Flower																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Comesperma sphaerocarpum	-																														
Comesperma volubile	-																														
Convolvulus angustissimus	-									0.1	1																				
Convolvulus arvensis	Field Bindweed																														
Conyza bonariensis	Flaxleaf Fleabane			0.1	1									0.1	1			0.1	1			0.1	1								
Coronidium elatum	-																														
Cotula australis	Common Cotula																														
Crassula sieberiana	Australian Stonecrop																														
Crepis capillaris	Smooth Hawksbeard																														
Cucumis myriocarpus	Paddy Melon																											0.1	1		
Cymbonotus lawsonianus	Bear's Ear																														
Cynodon dactylon	Common Couch											15	1			1	1							5	1	0.5	1				
Cynosurus echinatus	Rough Dog's Tail	1	1			0.1	1			0.5	1											0.1	1								
Cyperus eragrostis	Umbrella Sedge																														
Cyperus gracilis	Slender Flat-sedge																														
Cyperus sanguinolentus	-																														
Dactylis glomerata	Cocksfoot																														

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG0130F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dactyloctenium aegyptium	Coast Button Grass																							0.5	1								
Daucus glochidiatus	Native Carrot																																
Daviesia mimosoides subsp. *mimosoides*	-																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil	0.1	1							0.1	1																						
Dianella caerulea	Blue Flax-lily																																
Dianella longifolia	Blueberry Lily																																
Dianella revoluta	Blueberry Lily																																
Dichelachne crinita	Longhair Plumegrass																																
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne rara	-																																
Dichelachne sp.	A Plumegrass																																
Dichondra repens	Kidney Weed																																
Dichopogon sp.	Chocolate Lily																																
Digitaria ciliaris	Summer Grass																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Digitaria diffusa	Open Summer-grass																															0.2	1
Digitaria sanguinalis	Crab Grass																							0.5	1								
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																			0.1	1												
Dillwynia sp.	-																																
Diuris sulphurea	Tiger Orchid																																
Drosera peltata	A Sundew																																
Dysphania pumilio	Small Crumbweed			0.1	1	0.1	1	0.1	1			0.1	1	0.1	1									5	1	0.1	1	0.2	1			0.1	1
Dysphania sp.	-															0.1	1																
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon ovatus	Forest Hedgehog Grass																																
Echinopogon sp.	A Hedgehog Grass																																
Echium plantagineum	Patterson's Curse																															0.5	1
Einadia nutans	Climbing Saltbush					0.1	1																										
Eleusine tristachya	Goose Grass	0.1	1											0.5	1																		
Elymus scaber	Common Wheatgrass	5	1	0.1	1	0.5	1	0.1	1	1	1	1	1	1	1			0.1	1			1	1										
Enneapogon nigricans	Niggerheads																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Enteropogon acicularis	Curly Windmill Grass																																
Epilobium billardierianum	-																					0.1	1										
Epilobium ciliatum	-																																
Eragrostis brownii	Brown's Lovegrass																							1	1	0.1	1						
Eragrostis cilianensis	Stinkgrass															1	1																
Eragrostis curvula	African Lovegrass																									1	1						
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass							1	1																								
Eragrostis parviflora	Weeping Lovegrass									0.5	1	1	1	10	1																		
Eragrostis sp.	A Lovegrass																																
Eragrostis trachycarpa	A Lovegrass	10	1																														
Erodium botrys	Long Storksbill							1	1																								
Erodium cicutarium	Common Crowfoot																																
Erodium moschatum	Musky Crowfoot																							0.5	1								
Eucalyptus albens	White Box																											40	1				
Eucalyptus blakelyi	Blakely's Red Gum					0.5	1			10	1											0.2	1	15	1								
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus cinerea	Argyle Apple																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																			25	1												
Eucalyptus macrorhyncha	Red Stringybark	0.5	1	1	1																												
Eucalyptus mannifera	Brittle Gum																																
Eucalyptus melliodora	Yellow Box					1	1															35	1										
Eucalyptus polyanthemos	Red Box																																
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum			5	1															0.1	1												
Eucalyptus sp.	-																	0.1	1														
Euchiton involucratus	Star Cudweed	0.1	1											0.1	1																		
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed	0.1	1	0.1	1	0.1	1			0.1	1			0.1	1			0.1	1	0.1	1	0.1	1										
Exocarpos cupressiformis	Cherry Ballart			4	1																												
Gahnia sp.	-																																
Galium aparine	Goosegrass																																
Gamochaeta americana	Cudweed	0.1	1	0.1	1																												
Genoplesium sp.	-																																

Scientific Name	Common Name	BY130193 A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																																
Geranium solanderi	Native Geranium	0.1	1			0.1	1																										
Geranium solanderi var. *solanderi*	-																																
Geranium sp.	-																																
Glycine canescens	Silky Glycine																																
Glycine clandestina	Twining glycine																																
Gompholobium glabratum	Dainty Wedge Pea																																
Gompholobium huegelii	Pale Wedge Pea																																
Gompholobium sp.	-																																
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort	0.2	1	0.1	1					0.1	1			0.1	1			5	1	0.5	1												
Goodenia bellidifolia	-																																
Goodenia hederacea	Ivy Goodenia																			0.1	1												
Goodenia hederacea subsp. *hederacea*	-			0.1	1																												
Goodenia sp.	-																																
Grevillea lanigera	Woolly Grevillea																																
Haloragis heterophylla	Variable Raspwort																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hardenbergia violacea	False Sarsaparilla																																
Hibbertia calycina	Lesser Guinea Flower																																
Hibbertia obtusifolia	Hoary Guinea Flower																			0.1	1												
Hibbertia riparia	-																																
Hibbertia sp.	-																																
Holcus lanatus	Yorkshire Fog	5	1	0.1	1	0.5	1	0.5	1	0.1	1	1	1	0.5	1	0.1	1	0.1	1	1	1	1	1	1	1			0.5	1				
Hordeum leporinum	Barley Grass			0.1	1			35	1																								
Hordeum murinum	Barley-grass																							1	1			0.5	1	0.5	1		
Hovea heterophylla	-																																
Hovea lanceolata	-																																
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort																	0.1	1	1	1												
Hypericum gramineum	Small St John's Wort	0.1	1	0.1	1					0.1	1	0.1	1	0.1	1					0.1	1	0.1	1										
Hypericum perforatum	St. Johns Wort																															0.1	1
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.5	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1			0.1	1
Indigofera australis	Australian Indigo																																
Isotoma fluviatilis	Swamp Isotome											0.1	1																				

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Isotoma fluviatilis subsp. *australis*	-																																
Juncaceae indeterminate	Rushes																																
Juncus australis	Rush													0.1	1																		
Juncus bufonius	Toad Rush	0.1	1							0.1	1																						
Juncus capitatus	-																																
Juncus continuus	-																																
Juncus filicaulis	-	0.1	1											0.1	1	0.1	1																
Juncus flavidus	-																																
Juncus sp.	A Rush							0.1	1																								
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-																																
Kunzea ericoides	Burgan																																
Lactuca serriola	Prickly Lettuce																					0.1	1										
Lasiopetalum sp.	-																																
Lepidosperma laterale	Variable Sword-sedge																			0.1	1												
Leptospermum multicaule	Silver Tea-tree																																
Leptospermum sp.	Tea-tree																																
Leucochrysum albicans var. *tricolor*	Hoary Sunray																			0.1	1												

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Leucopogon fletcheri	-																																
Leucopogon muticus	Blunt Beard-heath																																
Leucopogon sp.	A Beard-heath																																
Linaria pelisseriana	Pelisser's Toadflax																																
Linum trigynum	French Flax																																
Lissanthe strigosa	Peach Heath																			0.1	1												
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass																							0.5	1								
Lolium rigidum	Wimmera Ryegrass																											0.1	1				
Lomandra bracteata	Mat-rush																																
Lomandra confertifolia	Matrush																																
Lomandra filiformis	Wattle Matt-rush																	0.5	1	0.1	1												
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush			0.5	1					0.1	1			0.1	1																		
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush																																
Lomandra longifolia	Spiny-headed Mat-rush																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																			0.1	1												
Luzula densiflora	Woodrush																																
Lysimachia arvensis	Scarlet Pimpernel																																
Lythrum hyssopifolia	Hyssop Loosestrife											0.1	1			0.1	1											0.5	1				
Malus domestica	Apple																																
Malva neglecta	Dwarf Mallow																							0.1	1								
Malva parviflora	Small-flowered Mallow																																
Marrubium vulgare	White Horehound																					0.1	1					0.2	1				
Medicago minima	Woolly Burr Medic	0.1	1																														
Megathyrsus maximus	-																																
Melichrus urceolatus	Urn Heath	0.1	1															0.5	1	5	1												
Mentha pulegium	Pennyroyal																					0.1	1										
Mentha satureioides	Native Pennyroyal																																
Microlaena stipoides	Weeping Grass															60	1					20	1	0.1	1	1	1	40	1	20	1	25	1
Microlaena stipoides var. *stipoides*	Weeping Grass	15	1	40	1	75	1					20	1	25	1																		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Microtis parviflora	Slender Onion Orchid																														
Microtis rara	Scented Onion Orchid																														
Microtis sp.	-			0.1	1																										
Mirbelia oxylobioides	Mountain Mirbelia																														
Modiola caroliniana	Red-flowered Mallow																														
Monotoca scoparia	-																														
Nassella neesiana	Chilean Needle Grass																														
Nassella trichotoma	Serrated Tussock																														
Nothoscordum inodorum	Onion Weed																														
Onopordum acanthium	Scotch Thistle																														
Opercularia diphylla	Stinkweed																														
Opercularia varia	Variable Stinkweed																														
Orchidaceae indeterminate	Orchids																														
Orobanche minor	Broomrape																														
Oxalis exilis	-															0.1	1														
Oxalis perennans	-	0.1	1	0.1	1	0.1	1					0.1	1	0.1	1							0.1	1			0.1	1	0.1	1		0.1	1
Oxalis sp.	-																														
Oxalis thompsoniae	-																														

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Panicum capillare	Witchgrass																											0.2	1				
Panicum effusum	Hairy Panic	1	1							0.5	1			1	1					0.1	1	0.1	1										
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																																
Paspalum dilatatum	Paspalum					0.1	1																					0.5	1				
Patersonia sericea	Silky Purple-Flag																																
Patersonia sp.	-																																
Persicaria prostrata	Creeping Knotweed																																
Persoonia rigida	-																																
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink									0.1	1			0.1	1			0.1	1	0.1	1												
Phalaris aquatica	Phalaris							0.2	1															15	1	5	1	0.2	1			0.1	1
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																																
Phytolacca octandra	Inkweed			0.2	1			0.1	1																								
Pimelea linifolia	Slender Rice Flower																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Plantago lanceolata	Lamb's Tongues																																
Plantago varia	-																																
Poa labillardierei var. *labillardierei*	Tussock																																
Poa sieberiana	Snowgrass			0.5	1															0.1	1												
Poa sieberiana var. *cyanophylla*	-																																
Poa sieberiana var. *sieberiana*	Snowgrass																																
Poa sp.	-																																
Polycarpon tetraphyllum	Four-leaved Allseed																																
Polygonum aviculare	Wireweed																																
Polygonum sp.	-																																
Polypogon monspeliensis	Annual Beardgrass																																
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera			0.1	1																												
Pseudognaphalium luteoalbum	Jersey Cudweed																																
Pultenaea microphylla	A Bush Pea																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pultenaea procumbens	-																																
Pultenaea sp.	-																																
Pultenaea subspicata	Low Bush-pea																																
Rhytidosporum procumbens	-																																
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar																																
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex																															20	1
Rumex acetosella	Sheep Sorrel	0.1	1			0.1	1	1	1	0.2	1	0.1	1	0.2	1	2	1					1	1			0.1	1					5	1
Rumex brownii	Swamp Dock					0.1	1					0.1	1			0.1	1							0.1	1	0.1	1	0.1	1			0.1	1
Rumex crispus	Curled Dock																							0.1	1					0.1	1		
Rytidosperma auriculatum	Lobed Wallaby Grass																									85	1	0.2	1			20	1
Rytidosperma caespitosum	Ringed Wallaby Grass																							0.2	1								
Rytidosperma carphoides	Short Wallaby Grass									0.5	1			1	1																		
Rytidosperma duttonianum	Brown-back Wallaby Grass					5	1			1	1																						
Rytidosperma erianthum	Wallaby Grass			1	1																												

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY13019C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma fulvum	Wallaby Grass																														
Rytidosperma laeve	Wallaby Grass	1	1	20	1					10	1																				
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass																														
Rytidosperma racemosum	Wallaby Grass																														
Rytidosperma setaceum	Small-flowered Wallaby-grass					0.1	1																								
Rytidosperma sp.	-	1	1			1	1	1	1			5	1	30	1	10	1			5.1	2	10	1								
Schoenus apogon	Fluke Bogrush	0.1	1							0.1	1																				
Schoenus sp.	-																														
Scleranthus biflorus	Two-flowered Knawel																														
Scutellaria humilis	Dwarf Skullcap																														
Senecio prenanthoides	-																														
Senecio quadridentatus	Cotton Fireweed	0.1	1																												
Setaria italica	Foxtail Millet							0.1	1																						
Setaria parviflora	-																									0.2	1				
Setaria sp.	-	1	1									0.5	1																		
Setaria verticillata	Whorled Pigeon Grass																														

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sida sp. *A*	-																																
Silybum marianum	Variegated Thistle																							0.5	1					10	1		
Sisyrinchium micranthum	Blue Pigroot																																
Solanum nigrum	Black-berry Nightshade			0.1	1											0.1	1							0.1	1			1	1			0.1	1
Solenogyne dominii	-									0.1	1																						
Sonchus asper	Prickly Sowthistle	0.1	1			0.1	1	0.1	1					0.1	1									0.1	1			0.2	1	0.1	1		
Sonchus oleraceus	Common Sowthistle					0.1	1																									0.1	1
Spergularia rubra	Sandspurry																																
Stellaria media	Common Chickweed																																
Stylidium graminifolium	Grass Triggerplant																																
Stylidium lineare	Narrow-leaved Triggerplant																																
Stypandra glauca	Nodding Blue Lily																																
Taraxacum officinale	Dandelion																																
Thelymitra sp.	-																																
Themeda triandra	Kangaroo Grass	0.1	1			0.1	1			0.5	1			20.5	2			85	1	5	1												
Thysanotus tuberosus	Common Fringe-lily																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Thysanotus tuberosus subsp. *tuberosus*	-																																
Tolpis barbata	Yellow Hawkweed																																
Tolpis umbellata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																																
Trifolium angustifolium	Narrow-leaved Clover	0.1	1			0.1	1							0.1	1													0.1	1				
Trifolium arvense	Haresfoot Clover									0.1	1			0.1	1																		
Trifolium campestre	Hop Clover	0.5	1			0.1	1			0.1	1													5	1								
Trifolium dubium	Yellow Suckling Clover													0.1	1																		
Trifolium glomeratum	Clustered Clover	0.1	1			0.1	1																										
Trifolium repens	White Clover																							25	1								
Trifolium subterraneum	Subterranean Clover							3	1			1	1	0.5	1	1	1									0.1	1	20	1	60	1	0.2	1
Triptilodiscus pygmaeus	Common Sunray																																
Urtica incisa	Stinging Nettle																																
Urtica urens	Small Nettle																							0.1	1			5	1				
Velleia paradoxa	-																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Verbascum thapsus	Aarons Rod																																
Veronica calycina	Hairy Speedwell																																
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1					0.5	1	0.1	1	0.2	1	1	1						
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																																
Wahlenbergia luteola	Bluebell																			0.1	1												
Wahlenbergia multicaulis	Tadgell's Bluebell			0.1	1							0.1	1	0.1	1			0.1	1			0.1	1										
Wahlenbergia sp.	Bluebell									0.1	1																						
Wahlenbergia stricta	Tall Bluebell																			0.1	1												
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell																																
Xanthium spinosum	Bathurst Burr																											0.1	1				
Xerochrysum viscosum	Sticky Everlasting																			0.1	1												

Table A5- 13: Murrumbateman BAM floristic data

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																	2	1												
Acacia deanei	Green Wattle			0.1	1																										
Acacia decurrens	Black Wattle																														
Acacia falciformis	Broad-leaved Hickory																														
Acacia gunnii	Ploughshare Wattle																														
Acacia havilandiorum	Haviland's Wattle																														
Acacia mearnsii	Black Wattle																					5	1								
Acacia paradoxa	Kangaroo Thorn																														
Acacia parramattensis	Parramatta Wattle																														
Acacia sp.	Wattle																														
Acaena ovina	Acaena																														
Agrostis capillaris	Browntop Bent																														
Aira caryophyllea	Silvery Hairgrass																														
Aira cupaniana	Silvery Hairgrass	1	1							0.5	1																				
Aira elegantissima	Delicate Hairgrass							0.1	1			0.5	1																		
Alternanthera denticulata	Lesser Joyweed																														
Alternanthera nana	Hairy Joyweed																										0.2	1			
Amaranthus retroflexus	Redroot Amaranth																							0.1	1						
Ammobium craspedioides	Yass Daisy																														

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amyema miquelii	Box Mistletoe																					0.5	1										
Amyema sp.	Mistletoe																																
Anthoxanthum odoratum	Sweet Vernal Grass																																
Arctotheca calendula	Capeweed							0.5	1			0.1	1			0.1	1							0.1	1								
Aristida acuta	-																																
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass	1	1	0.5	1					1	1			1	1																		
Aristida vagans	Threeawn Speargrass	5	1	1	1					20	1																						
Arthropodium milleflorum	Pale Vanilla-lily																																
Arthropodium minus	Small Vanilla Lily																																
Asperula conferta	Common Woodruff																																
Astroloma humifusum	Native Cranberry																			0.1	1												
Astroloma pinifolium	Pine Heath																																
Austrostipa bigeniculata	Yanganbil	0.1	1			5	1																										
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa scabra	Speargrass	0.5	1	5	1	0.5	1			0.5	1	5	1	0.5	1					50	1	2	1			2	1						
Austrostipa scabra subsp. *scabra*	Rough Speargrass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Austrostipa sp.	A Speargrass																									5	1						
Austrostipa verticillata	Slender Bamboo Grass					0.1	1																										
Avena barbata	Bearded Oats									0.1	1																					1	1
Avena fatua	Wild Oats																																
Avena sativa	Oats																													5	1		
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass					0.1	1			3	1			5	1							5	1									2	1
Brachychiton populneus	Kurrajong																																
Brachyloma daphnoides	Daphne Heath																			2	1												
Brachyscome dentata	-																																
Brassica rapa	-																																
Briza maxima	Quaking Grass	0.1	1	0.2	1													1	1	2	1												
Briza minor	Shivery Grass	0.1	1							0.2	1																						
Briza subaristata	-																																
Bromus cartharticus	Prairie Grass																					0.5	1										
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Bromus hordeaceus	Soft Brome																							0.5	1					0.1	1		
Bromus molliformis	Soft Brome	0.1	1			1	1	10	1			0.2	1	0.5	1																		
Bromus rubens	Red Brome																																
Bromus sp.	A Brome																																
Bulbine bulbosa	Bulbine Lily																																
Bursaria spinosa	Native Blackthorn																																
Calochilus sp.	-																																
Calochlaena dubia	Rainbow Fern																																
Capsella bursa-pastoris	Shepherd's Purse																							0.1	1								
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge																					0.1	1										
Carex incomitata	-											0.1	1																				
Carex inversa	Knob Sedge	0.1	1			0.1	1			0.1	1			0.1	1																		
Carex sp.	-																																
Carthamus lanatus	Saffron Thistle																																
Cassinia arcuata	Sifton Bush	0.1	1			0.1	1			0.1	1									1	1	1	1										
Cassinia quinquefaria	-																																
Cassinia sp.	-																																
Cassytha melantha	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cassytha pubescens	Downy Dodder-laurel																																
Cassytha sp.	-																																
Celmisia longifolia	Snow Daisy																																
Centaurium erythraea	Common Centaury	0.1	1	0.1	1			0.1	1	0.1	1	0.1	1	0.1	1			0.1	1			0.1	1										
Centaurium tenuiflorum	Branched Centaury, Slender centaury																																
Cerastium glomeratum	Mouse-ear Chickweed															0.1	1																
Chamaesyce drummondii	Caustic Weed																									0.1	1						
Cheilanthes sieberi	Rock Fern			0.1	1					0.1	1																						
Cheilanthes sieberi subsp. *sieberi*	Rock Fern																																
Cheiranthera linearis	Finger Flower																																
Chloris truncata	Windmill Grass							0.1	1			0.5	1																				
Chondrilla juncea	Skeleton Weed					0.1	1			0.1	1									0.1	1	0.1	1										
Chrysocephalum apiculatum	Common Everlasting																	0.1	1														
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle	0.1	1			0.1	1	0.1	1													0.1	1					0.2	1	0.2	1	0.5	1
Comesperma ericinum	Pyramid Flower																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Comesperma sphaerocarpum	-																														
Comesperma volubile	-																														
Convolvulus angustissimus	-									0.1	1																				
Convolvulus arvensis	Field Bindweed																														
Conyza bonariensis	Flaxleaf Fleabane			0.1	1									0.1	1			0.1	1			0.1	1								
Coronidium elatum	-																														
Cotula australis	Common Cotula																														
Crassula sieberiana	Australian Stonecrop																														
Crepis capillaris	Smooth Hawksbeard																														
Cucumis myriocarpus	Paddy Melon																											0.1	1		
Cymbonotus lawsonianus	Bear's Ear																														
Cynodon dactylon	Common Couch											15	1			1	1							5	1	0.5	1				
Cynosurus echinatus	Rough Dog's Tail	1	1			0.1	1			0.5	1											0.1	1								
Cyperus eragrostis	Umbrella Sedge																														
Cyperus gracilis	Slender Flat-sedge																														
Cyperus sanguinolentus	-																														
Dactylis glomerata	Cocksfoot																														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dactyloctenium aegyptium	Coast Button Grass																							0.5	1								
Daucus glochidiatus	Native Carrot																																
Daviesia mimosoides subsp. *mimosoides*	-																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil	0.1	1							0.1	1																						
Dianella caerulea	Blue Flax-lily																																
Dianella longifolia	Blueberry Lily																																
Dianella revoluta	Blueberry Lily																																
Dichelachne crinita	Longhair Plumegrass																																
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne rara	-																																
Dichelachne sp.	A Plumegrass																																
Dichondra repens	Kidney Weed																																
Dichopogon sp.	Chocolate Lily																																
Digitaria ciliaris	Summer Grass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Digitaria diffusa	Open Summer-grass																													0.2	1
Digitaria sanguinalis	Crab Grass																							0.5	1						
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																			0.1	1										
Dillwynia sp.	-																														
Diuris sulphurea	Tiger Orchid																														
Drosera peltata	A Sundew																														
Dysphania pumilio	Small Crumbweed			0.1	1	0.1	1	0.1	1			0.1	1	0.1	1									5	1	0.1	1	0.2	1			0.1	1
Dysphania sp.	-															0.1	1														
Echinopogon caespitosus	Bushy Hedgehog-grass																														
Echinopogon ovatus	Forest Hedgehog Grass																														
Echinopogon sp.	A Hedgehog Grass																														
Echium plantagineum	Patterson's Curse																													0.5	1
Einadia nutans	Climbing Saltbush					0.1	1																								
Eleusine tristachya	Goose Grass	0.1	1											0.5	1																
Elymus scaber	Common Wheatgrass	5	1	0.1	1	0.5	1	0.1	1	1	1	1	1	1	1			0.1	1			1	1								
Enneapogon nigricans	Niggerheads																														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Enteropogon acicularis	Curly Windmill Grass																																
Epilobium billardierianum	-																					0.1	1										
Epilobium ciliatum	-																																
Eragrostis brownii	Brown's Lovegrass																							1	1	0.1	1						
Eragrostis cilianensis	Stinkgrass															1	1																
Eragrostis curvula	African Lovegrass																									1	1						
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass							1	1																								
Eragrostis parviflora	Weeping Lovegrass									0.5	1	1	1	10	1																		
Eragrostis sp.	A Lovegrass																																
Eragrostis trachycarpa	A Lovegrass	10	1																														
Erodium botrys	Long Storksbill							1	1																								
Erodium cicutarium	Common Crowfoot																																
Erodium moschatum	Musky Crowfoot																							0.5	1								
Eucalyptus albens	White Box																											40	1				
Eucalyptus blakelyi	Blakely's Red Gum					0.5	1			10	1											0.2	1	15	1								
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus cinerea	Argyle Apple																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																			25	1												
Eucalyptus macrorhyncha	Red Stringybark	0.5	1	1	1																												
Eucalyptus mannifera	Brittle Gum																																
Eucalyptus melliodora	Yellow Box					1	1															35	1										
Eucalyptus polyanthemos	Red Box																																
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum			5	1															0.1	1												
Eucalyptus sp.	-																	0.1	1														
Euchiton involucratus	Star Cudweed	0.1	1											0.1	1																		
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed	0.1	1	0.1	1	0.1	1			0.1	1			0.1	1			0.1	1	0.1	1	0.1	1										
Exocarpos cupressiformis	Cherry Ballart			4	1																												
Gahnia sp.	-																																
Galium aparine	Goosegrass																																
Gamochaeta americana	Cudweed	0.1	1	0.1	1																												
Genoplesium sp.	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																																
Geranium solanderi	Native Geranium	0.1	1			0.1	1																										
Geranium solanderi var. *solanderi*	-																																
Geranium sp.	-																																
Glycine canescens	Silky Glycine																																
Glycine clandestina	Twining glycine																																
Gompholobium glabratum	Dainty Wedge Pea																																
Gompholobium huegelii	Pale Wedge Pea																																
Gompholobium sp.	-																																
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort	0.2	1	0.1	1					0.1	1			0.1	1			5	1	0.5	1												
Goodenia bellidifolia	-																																
Goodenia hederacea	Ivy Goodenia																			0.1	1												
Goodenia hederacea subsp. *hederacea*	-			0.1	1																												
Goodenia sp.	-																																
Grevillea lanigera	Woolly Grevillea																																
Haloragis heterophylla	Variable Raspwort																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hardenbergia violacea	False Sarsaparilla																																
Hibbertia calycina	Lesser Guinea Flower																																
Hibbertia obtusifolia	Hoary Guinea Flower																			0.1	1												
Hibbertia riparia	-																																
Hibbertia sp.	-																																
Holcus lanatus	Yorkshire Fog	5	1	0.1	1	0.5	1	0.5	1	0.1	1	1	1	0.5	1	0.1	1	0.1	1	1	1	1	1	1	1			0.5	1				
Hordeum leporinum	Barley Grass			0.1	1			35	1																								
Hordeum murinum	Barley-grass																							1	1			0.5	1	0.5	1		
Hovea heterophylla	-																																
Hovea lanceolata	-																																
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort																	0.1	1	1	1												
Hypericum gramineum	Small St John's Wort	0.1	1	0.1	1					0.1	1	0.1	1	0.1	1					0.1	1	0.1	1										
Hypericum perforatum	St. Johns Wort																															0.1	1
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.5	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1			0.1	1
Indigofera australis	Australian Indigo																																
Isotoma fluviatilis	Swamp Isotome											0.1	1																				

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Isotoma fluviatilis subsp. *australis*	-																																
Juncaceae indeterminate	Rushes																																
Juncus australis	Rush													0.1	1																		
Juncus bufonius	Toad Rush	0.1	1							0.1	1																						
Juncus capitatus	-																																
Juncus continuus	-																																
Juncus filicaulis	-	0.1	1											0.1	1	0.1	1																
Juncus flavidus	-																																
Juncus sp.	A Rush							0.1	1																								
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-																																
Kunzea ericoides	Burgan																																
Lactuca serriola	Prickly Lettuce																					0.1	1										
Lasiopetalum sp.	-																																
Lepidosperma laterale	Variable Sword-sedge																			0.1	1												
Leptospermum multicaule	Silver Tea-tree																																
Leptospermum sp.	Tea-tree																																
Leucochrysum albicans var. *tricolor*	Hoary Sunray																			0.1	1												

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Leucopogon fletcheri	-																																
Leucopogon muticus	Blunt Beard-heath																																
Leucopogon sp.	A Beard-heath																																
Linaria pelisseriana	Pelisser's Toadflax																																
Linum trigynum	French Flax																																
Lissanthe strigosa	Peach Heath																			0.1	1												
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass																							0.5	1								
Lolium rigidum	Wimmera Ryegrass																											0.1	1				
Lomandra bracteata	Mat-rush																																
Lomandra confertifolia	Matrush																																
Lomandra filiformis	Wattle Matt-rush																	0.5	1	0.1	1												
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush			0.5	1					0.1	1			0.1	1																		
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush																																
Lomandra longifolia	Spiny-headed Mat-rush																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																			0.1	1												
Luzula densiflora	Woodrush																																
Lysimachia arvensis	Scarlet Pimpernel																																
Lythrum hyssopifolia	Hyssop Loosestrife											0.1	1			0.1	1											0.5	1				
Malus domestica	Apple																																
Malva neglecta	Dwarf Mallow																							0.1	1								
Malva parviflora	Small-flowered Mallow																																
Marrubium vulgare	White Horehound																					0.1	1					0.2	1				
Medicago minima	Woolly Burr Medic	0.1	1																														
Megathyrsus maximus	-																																
Melichrus urceolatus	Urn Heath	0.1	1															0.5	1	5	1												
Mentha pulegium	Pennyroyal																					0.1	1										
Mentha satureioides	Native Pennyroyal																																
Microlaena stipoides	Weeping Grass															60	1					20	1	0.1	1	1	1	40	1	20	1	25	1
Microlaena stipoides var. *stipoides*	Weeping Grass	15	1	40	1	75	1					20	1	25	1																		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Microtis parviflora	Slender Onion Orchid																														
Microtis rara	Scented Onion Orchid																														
Microtis sp.	-			0.1	1																										
Mirbelia oxylobioides	Mountain Mirbelia																														
Modiola caroliniana	Red-flowered Mallow																														
Monotoca scoparia	-																														
Nassella neesiana	Chilean Needle Grass																														
Nassella trichotoma	Serrated Tussock																														
Nothoscordum inodorum	Onion Weed																														
Onopordum acanthium	Scotch Thistle																														
Opercularia diphylla	Stinkweed																														
Opercularia varia	Variable Stinkweed																														
Orchidaceae indeterminate	Orchids																														
Orobanche minor	Broomrape																														
Oxalis exilis	-															0.1	1														
Oxalis perennans	-	0.1	1	0.1	1	0.1	1					0.1	1	0.1	1							0.1	1			0.1	1	0.1	1	0.1	1
Oxalis sp.	-																														
Oxalis thompsoniae	-																														

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Panicum capillare	Witchgrass																											0.2	1				
Panicum effusum	Hairy Panic	1	1							0.5	1			1	1					0.1	1	0.1	1										
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																																
Paspalum dilatatum	Paspalum					0.1	1																					0.5	1				
Patersonia sericea	Silky Purple-Flag																																
Patersonia sp.	-																																
Persicaria prostrata	Creeping Knotweed																																
Persoonia rigida	-																																
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink									0.1	1			0.1	1			0.1	1	0.1	1												
Phalaris aquatica	Phalaris							0.2	1															15	1	5	1	0.2	1			0.1	1
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																																
Phytolacca octandra	Inkweed			0.2	1			0.1	1																								
Pimelea linifolia	Slender Rice Flower																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG0130F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Plantago lanceolata	Lamb's Tongues																														
Plantago varia	-																														
Poa labillardierei var. *labillardierei*	Tussock																														
Poa sieberiana	Snowgrass			0.5	1															0.1	1										
Poa sieberiana var. *cyanophylla*	-																														
Poa sieberiana var. *sieberiana*	Snowgrass																														
Poa sp.	-																														
Polycarpon tetraphyllum	Four-leaved Allseed																														
Polygonum aviculare	Wireweed																														
Polygonum sp.	-																														
Polypogon monspeliensis	Annual Beardgrass																														
Pomax umbellata	Pomax																														
Poranthera microphylla	Small Poranthera			0.1	1																										
Pseudognaphalium luteoalbum	Jersey Cudweed																														
Pultenaea microphylla	A Bush Pea																														

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pultenaea procumbens	-																																
Pultenaea sp.	-																																
Pultenaea subspicata	Low Bush-pea																																
Rhytidosporum procumbens	-																																
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar																																
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex																															20	1
Rumex acetosella	Sheep Sorrel	0.1	1			0.1	1	1	1	0.2	1	0.1	1	0.2	1	2	1					1	1			0.1	1					5	1
Rumex brownii	Swamp Dock					0.1	1					0.1	1			0.1	1							0.1	1	0.1	1	0.1	1			0.1	1
Rumex crispus	Curled Dock																							0.1	1					0.1	1		
Rytidosperma auriculatum	Lobed Wallaby Grass																									85	1	0.2	1			20	1
Rytidosperma caespitosum	Ringed Wallaby Grass																							0.2	1								
Rytidosperma carphoides	Short Wallaby Grass									0.5	1			1	1																		
Rytidosperma duttonianum	Brown-back Wallaby Grass					5	1			1	1																						
Rytidosperma erianthum	Wallaby Grass			1	1																												

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY13019C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma fulvum	Wallaby Grass																																
Rytidosperma laeve	Wallaby Grass	1	1	20	1					10	1																						
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass																																
Rytidosperma racemosum	Wallaby Grass																																
Rytidosperma setaceum	Small-flowered Wallaby-grass					0.1	1																										
Rytidosperma sp.	-	1	1			1	1	1	1			5	1	30	1	10	1			5.1	2	10	1										
Schoenus apogon	Fluke Bogrush	0.1	1							0.1	1																						
Schoenus sp.	-																																
Scleranthus biflorus	Two-flowered Knawel																																
Scutellaria humilis	Dwarf Skullcap																																
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed	0.1	1																														
Setaria italica	Foxtail Millet							0.1	1																								
Setaria parviflora	-																									0.2	1						
Setaria sp.	-	1	1									0.5	1																				
Setaria verticillata	Whorled Pigeon Grass																																

Scientific Name	Common Name	BY130193A7		BY130194 8C		BY130197 57		BY130197 C8		BY13019B 24		BY13019D A7		BY13019F 8D		BY142B 2A		BY1430 5C		BY1430 A1		BY1435 51		YG0068 A8		YG0076 9F		YG007F E8		YG0130 24		YG0130 F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sida sp. *A*	-																																
Silybum marianum	Variegated Thistle																							0.5	1					10	1		
Sisyrinchium micranthum	Blue Pigroot																																
Solanum nigrum	Black-berry Nightshade			0.1	1											0.1	1							0.1	1			1	1			0.1	1
Solenogyne dominii	-									0.1	1																						
Sonchus asper	Prickly Sowthistle	0.1	1			0.1	1	0.1	1					0.1	1									0.1	1			0.2	1	0.1	1		
Sonchus oleraceus	Common Sowthistle					0.1	1																									0.1	1
Spergularia rubra	Sandspurry																																
Stellaria media	Common Chickweed																																
Stylidium graminifolium	Grass Triggerplant																																
Stylidium lineare	Narrow-leaved Triggerplant																																
Stypandra glauca	Nodding Blue Lily																																
Taraxacum officinale	Dandelion																																
Thelymitra sp.	-																																
Themeda triandra	Kangaroo Grass	0.1	1			0.1	1			0.5	1			20.5	2			85	1	5	1												
Thysanotus tuberosus	Common Fringe-lily																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Thysanotus tuberosus subsp. *tuberosus*	-																																
Tolpis barbata	Yellow Hawkweed																																
Tolpis umbellata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																																
Trifolium angustifolium	Narrow-leaved Clover	0.1	1			0.1	1							0.1	1													0.1	1				
Trifolium arvense	Haresfoot Clover									0.1	1			0.1	1																		
Trifolium campestre	Hop Clover	0.5	1			0.1	1			0.1	1													5	1								
Trifolium dubium	Yellow Suckling Clover													0.1	1																		
Trifolium glomeratum	Clustered Clover	0.1	1			0.1	1																										
Trifolium repens	White Clover																							25	1								
Trifolium subterraneum	Subterranean Clover							3	1			1	1	0.5	1	1	1									0.1	1	20	1	60	1	0.2	1
Triptilodiscus pygmaeus	Common Sunray																																
Urtica incisa	Stinging Nettle																																
Urtica urens	Small Nettle																							0.1	1			5	1				
Velleia paradoxa	-																																

Scientific Name	Common Name	BY130193A7		BY1301948C		BY13019757		BY130197C8		BY13019B24		BY13019DA7		BY13019F8D		BY142B2A		BY14305C		BY1430A1		BY143551		YG0068A8		YG00769F		YG007FE8		YG013024		YG013F0	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Verbascum thapsus	Aarons Rod																																
Veronica calycina	Hairy Speedwell																																
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1					0.5	1	0.1	1	0.2	1	1	1						
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																																
Wahlenbergia luteola	Bluebell																			0.1	1												
Wahlenbergia multicaulis	Tadgell's Bluebell			0.1	1							0.1	1	0.1	1			0.1	1			0.1	1										
Wahlenbergia sp.	Bluebell									0.1	1																						
Wahlenbergia stricta	Tall Bluebell																			0.1	1												
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell																																
Xanthium spinosum	Bathurst Burr																											0.1	1				
Xerochrysum viscosum	Sticky Everlasting																			0.1	1												

Table A5- 14: Murrumbateman BAM floristic data

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle																																
Acacia deanei	Green Wattle																																
Acacia decurrens	Black Wattle																																
Acacia falciformis	Broad-leaved Hickory																																
Acacia gunnii	Ploughshare Wattle																																
Acacia havilandiorum	Haviland's Wattle																																
Acacia mearnsii	Black Wattle																																
Acacia paradoxa	Kangaroo Thorn																					20	1			60	1						
Acacia parramattensis	Parramatta Wattle																																
Acacia sp.	Wattle																																
Acaena ovina	Acaena															0.1	1																
Agrostis capillaris	Browntop Bent																																
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass															0.2	1																
Aira elegantissima	Delicate Hairgrass																			0.1	1												
Alternanthera denticulata	Lesser Joyweed																			0.1	1												
Alternanthera nana	Hairy Joyweed																																
Amaranthus retroflexus	Redroot Amaranth																																
Ammobium craspedioides	Yass Daisy																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amyema miquelii	Box Mistletoe																																
Amyema sp.	Mistletoe																																
Anthoxanthum odoratum	Sweet Vernal Grass																					0.1	1										
Arctotheca calendula	Capeweed															0.2	1	0.1	1														
Aristida acuta	-																																
Aristida personata	-																																
Aristida ramosa	Purple Wiregrass																					20	1			0.1	1	0.5	1	5	1		
Aristida vagans	Threeawn Speargrass															0.2	1																
Arthropodium milleflorum	Pale Vanilla-lily																																
Arthropodium minus	Small Vanilla Lily																																
Asperula conferta	Common Woodruff																																
Astroloma humifusum	Native Cranberry																																
Astroloma pinifolium	Pine Heath																																
Austrostipa bigeniculata	Yanganbil													1	1																		
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa scabra	Speargrass									15	1			5	1			1	1									35	1			1	1
Austrostipa scabra subsp. *scabra*	Rough Speargrass															0.2	1																
Austrostipa sp.	A Speargrass																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Austrostipa verticillata	Slender Bamboo Grass																																
Avena barbata	Bearded Oats	5	1			0.1	1									2	1																
Avena fatua	Wild Oats													1	1																		
Avena sativa	Oats																																
Axonopus fissifolius	Narrow-leafed Carpet Grass																																
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass	20	1											0.5	1			15	1			5	1					5	1	5	1		
Brachychiton populneus	Kurrajong	0.1	1																														
Brachyloma daphnoides	Daphne Heath																																
Brachyscome dentata	-																																
Brassica rapa	-	0.1	1	0.5	1																												
Briza maxima	Quaking Grass																					0.1	1			0.1	1						
Briza minor	Shivery Grass																																
Briza subaristata	-															0.1	1																
Bromus cartharticus	Prairie Grass													0.5	1																		
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome															0.5	1																
Bromus hordeaceus	Soft Brome					0.1	1																							0.1	1		
Bromus molliformis	Soft Brome							0.2	1																								

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Bromus rubens	Red Brome	0.5	1																														
Bromus sp.	A Brome																	0.5	1														
Bulbine bulbosa	Bulbine Lily																																
Bursaria spinosa	Native Blackthorn																																
Calochilus sp.	-																																
Calochlaena dubia	Rainbow Fern																																
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																															0.1	1
Carex appressa	Tall Sedge																																
Carex incomitata	-																																
Carex inversa	Knob Sedge																																
Carex sp.	-																			0.1	1												
Carthamus lanatus	Saffron Thistle	10	1	0.5	1			1	1	0.1	1	10	1	0.5	1													0.1	1			0.1	1
Cassinia arcuata	Sifton Bush																																
Cassinia quinquefaria	-																																
Cassinia sp.	-																																
Cassytha melantha	-																																
Cassytha pubescens	Downy Dodder-laurel																																
Cassytha sp.	-																																
Celmisia longifolia	Snow Daisy																																
Centaurium erythraea	Common Centaury																					0.1	1					0.1	1	0.1	1		
Centaurium tenuiflorum	Branched Centaury,																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
	Slender centaury																																
Cerastium glomeratum	Mouse-ear Chickweed																																
Chamaesyce drummondii	Caustic Weed																	0.1	1									0.1	1				
Cheilanthes sieberi	Rock Fern																					0.1	1			0.1	1	0.1	1	0.1	1		
Cheilanthes sieberi subsp. *sieberi*	Rock Fern															0.1	1																
Cheiranthera linearis	Finger Flower																																
Chloris truncata	Windmill Grass																																
Chondrilla juncea	Skeleton Weed																	0.1	1														
Chrysocephalum apiculatum	Common Everlasting																																
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle	0.5	1	5	1			0.5	1	1	1	15	1																	0.1	1		
Comesperma ericinum	Pyramid Flower																																
Comesperma sphaerocarpum	-																																
Comesperma volubile	-																																
Convolvulus angustissimus	-																																
Convolvulus arvensis	Field Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane			0.1	1																							0.1	1			0.1	1
Coronidium elatum	-																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cotula australis	Common Cotula																																
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard																																
Cucumis myriocarpus	Paddy Melon	0.5	1			1	1	0.5	1															0.1	1								
Cymbonotus lawsonianus	Bear's Ear																																
Cynodon dactylon	Common Couch																			1	1			0.1	1	0.1	1						
Cynosurus echinatus	Rough Dog's Tail																																
Cyperus eragrostis	Umbrella Sedge																							0.1	1								
Cyperus gracilis	Slender Flat-sedge																																
Cyperus sanguinolentus	-																																
Dactylis glomerata	Cocksfoot																																
Dactyloctenium aegyptium	Coast Button Grass																																
Daucus glochidiatus	Native Carrot																																
Daviesia mimosoides subsp. *mimosoides*	-																																
Desmodium gunnii	Slender Tick-trefoil																																
Desmodium varians	Slender Tick-trefoil	0.5	1																											0.1	1		
Dianella caerulea	Blue Flax-lily																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dianella longifolia	Blueberry Lily																																
Dianella revoluta	Blueberry Lily																																
Dichelachne crinita	Longhair Plumegrass																																
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne rara	-																																
Dichelachne sp.	A Plumegrass																																
Dichondra repens	Kidney Weed	1	1															0.5	1	0.1	1							0.1	1	1	1	0.5	1
Dichopogon sp.	Chocolate Lily																																
Digitaria ciliaris	Summer Grass																																
Digitaria diffusa	Open Summer-grass																																
Digitaria sanguinalis	Crab Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																																
Dillwynia sp.	-																																
Diuris sulphurea	Tiger Orchid															0.1	1																
Drosera peltata	A Sundew																																
Dysphania pumilio	Small Crumbweed	2	1	0.2	1	0.2	1	5	1	0.5	1	5	1																				
Dysphania sp.	-																	0.2	1					5	1			0.1	1			0.1	1
Echinopogon caespitosus	Bushy Hedgehog-grass																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG01962 0		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Echinopogon ovatus	Forest Hedgehog Grass																																
Echinopogon sp.	A Hedgehog Grass															0.5	1																
Echium plantagineum	Patterson's Curse	0.5	1	0.1	1	2	1	0.5	1	0.1	1	0.2	1											0.1	1								
Einadia nutans	Climbing Saltbush	10	1	2	1					0.5	1							0.1	1														
Eleusine tristachya	Goose Grass																																
Elymus scaber	Common Wheatgrass													1	1			0.5	1	1	1	1	1					0.1	1	1	1	0.2	1
Enneapogon nigricans	Niggerheads																	0.5	1														
Enteropogon acicularis	Curly Windmill Grass																																
Epilobium billardierianum	-																																
Epilobium ciliatum	-							0.1	1																								
Eragrostis brownii	Brown's Lovegrass																	1	1	10	1			0.2	1					1	1	0.1	1
Eragrostis cilianensis	Stinkgrass																																
Eragrostis curvula	African Lovegrass																																
Eragrostis elongata	Clustered Lovegrass																			0.1	1												
Eragrostis leptostachya	Paddock Lovegrass																											0.5	1				
Eragrostis parviflora	Weeping Lovegrass																			5	1												
Eragrostis sp.	A Lovegrass																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eragrostis trachycarpa	A Lovegrass																																
Erodium botrys	Long Storksbill					0.1	1	0.2	1																			0.1	1				
Erodium cicutarium	Common Crowfoot																	0.1	1														
Erodium moschatum	Musky Crowfoot																																
Eucalyptus albens	White Box																																
Eucalyptus blakelyi	Blakely's Red Gum	20	1																														
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus cinerea	Argyle Apple																																
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																																
Eucalyptus macrorhyncha	Red Stringybark													5	1	5	1	5	1							5	1						
Eucalyptus mannifera	Brittle Gum																									30	1						
Eucalyptus melliodora	Yellow Box																																
Eucalyptus polyanthemos	Red Box									50	1																						
Eucalyptus polyanthemos subsp. *polyanthemos*	-			60	1																												
Eucalyptus rossii	Inland Scribbly Gum															10	1																
Eucalyptus sp.	-																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Euchiton involucratus	Star Cudweed																			0.1	1												
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed																					0.1	1					0.1	1				
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass	0.1	1	0.5	1																												
Gamochaeta americana	Cudweed																																
Genoplesium sp.	-																																
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																	0.1	1														
Geranium solanderi	Native Geranium									15	1																						
Geranium solanderi var. *solanderi*	-																																
Geranium sp.	-															0.1	1																
Glycine canescens	Silky Glycine																																
Glycine clandestina	Twining glycine																																
Gompholobium glabratum	Dainty Wedge Pea																																
Gompholobium huegelii	Pale Wedge Pea																																
Gompholobium sp.	-																																
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort															0.1	1					1	1			0.1	1						

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Goodenia bellidifolia	-																																
Goodenia hederacea	Ivy Goodenia																																
Goodenia hederacea subsp. *hederacea*	-																																
Goodenia sp.	-																																
Grevillea lanigera	Woolly Grevillea																																
Haloragis heterophylla	Variable Raspwort																																
Hardenbergia violacea	False Sarsaparilla																																
Hibbertia calycina	Lesser Guinea Flower																																
Hibbertia obtusifolia	Hoary Guinea Flower																																
Hibbertia riparia	-																																
Hibbertia sp.	-																																
Holcus lanatus	Yorkshire Fog							0.5	1			0.2	1	0.5	1					1	1	0.1	1	0.1	1					0.1	1		
Hordeum leporinum	Barley Grass																	0.5	1					35	1					1	1		
Hordeum murinum	Barley-grass	0.5	1			0.5	1	0.2	1																								
Hovea heterophylla	-																																
Hovea lanceolata	-																																
Hovea linearis	-																																
Hydrocotyle laxiflora	Stinking Pennywort	0.2	1													0.5	1									0.1	1						

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hypericum gramineum	Small St John's Wort									0.1	1									0.1	1	1	1					0.1	1	0.1	1		
Hypericum perforatum	St. Johns Wort							0.2	1	0.5	1	0.2	1	0.1	1																		
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear									0.1	1			0.2	1	0.5	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.5	1	0.1	1
Indigofera australis	Australian Indigo																																
Isotoma fluviatilis	Swamp Isotome																			0.2	1												
Isotoma fluviatilis subsp. *australis*	-																																
Juncaceae indeterminate	Rushes																																
Juncus australis	Rush																					0.1	1										
Juncus bufonius	Toad Rush																			0.1	1												
Juncus capitatus	-																																
Juncus continuus	-																					0.1	1										
Juncus filicaulis	-																													0.1	1		
Juncus flavidus	-																																
Juncus sp.	A Rush																			0.1	1												
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-																																
Kunzea ericoides	Burgan																																
Lactuca serriola	Prickly Lettuce			5	1					0.2	1																						
Lasiopetalum sp.	-																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lepidosperma laterale	Variable Sword-sedge															0.1	1																
Leptospermum multicaule	Silver Tea-tree																																
Leptospermum sp.	Tea-tree																																
Leucochrysum albicans var. *tricolor*	Hoary Sunray																																
Leucopogon fletcheri	-																																
Leucopogon muticus	Blunt Beard-heath																																
Leucopogon sp.	A Beard-heath																																
Linaria pelisseriana	Pelisser's Toadflax																																
Linum trigynum	French Flax																													0.1	1		
Lissanthe strigosa	Peach Heath																																
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass																																
Lolium rigidum	Wimmera Ryegrass	0.1	1			0.1	1																										
Lomandra bracteata	Mat-rush															0.3	1																
Lomandra confertifolia	Matrush																																
Lomandra filiformis	Wattle Matt-rush	0.1	1							0.1	1																						
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush																																
Lomandra longifolia	Spiny-headed Mat-rush																																
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																									0.1	1						
Luzula densiflora	Woodrush																																
Lysimachia arvensis	Scarlet Pimpernel																																
Lythrum hyssopifolia	Hyssop Loosestrife																																
Malus domestica	Apple																																
Malva neglecta	Dwarf Mallow																																
Malva parviflora	Small-flowered Mallow	0.1	1			0.1	1																										
Marrubium vulgare	White Horehound	0.2	1							0.1	1																						
Medicago minima	Woolly Burr Medic																																
Megathyrsus maximus	-																																
Melichrus urceolatus	Urn Heath																																
Mentha pulegium	Pennyroyal																																
Mentha satureioides	Native Pennyroyal																																
Microlaena stipoides	Weeping Grass	2	1	25	1	10	1	40	1	5	1	5	1	50	1							5	1										

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Microlaena stipoides var. *stipoides*	Weeping Grass															5	1	25	1					35	1	1	1	5	1	70	1	10	1
Microtis parviflora	Slender Onion Orchid																																
Microtis rara	Scented Onion Orchid																																
Microtis sp.	-																																
Mirbelia oxylobioides	Mountain Mirbelia																																
Modiola caroliniana	Red-flowered Mallow									0.1	1																						
Monotoca scoparia	-																																
Nassella neesiana	Chilean Needle Grass																																
Nassella trichotoma	Serrated Tussock																																
Nothoscordum inodorum	Onion Weed															0.1	1																
Onopordum acanthium	Scotch Thistle									0.1	1																						
Opercularia diphylla	Stinkweed																																
Opercularia varia	Variable Stinkweed																																
Orchidaceae indeterminate	Orchids																																
Orobanche minor	Broomrape									0.1	1																						
Oxalis exilis	-																																
Oxalis perennans	-	0.2	1	0.1	1					0.2	1					0.1	1	0.1	1	0.1	1							0.1	1	0.1	1		
Oxalis sp.	-													0.1	1																		

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Oxalis thompsoniae	-																																
Panicum capillare	Witchgrass																																
Panicum effusum	Hairy Panic									0.1	1											5	1							0.5	1		
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow																																
Paspalum dilatatum	Paspalum																							0.1	1								
Patersonia sericea	Silky Purple-Flag																																
Patersonia sp.	-																																
Persicaria prostrata	Creeping Knotweed																																
Persoonia rigida	-																																
Petrorhagia dubia	-															0.1	1																
Petrorhagia nanteuilii	Proliferous Pink	0.1	1											0.1	1			0.1	1	0.1	1							0.1	1				
Phalaris aquatica	Phalaris																																
Phleum pratense	Timothy																																
Phyllanthus virgatus	Wiry Spurge																																
Phytolacca octandra	Inkweed																											5	1				
Pimelea linifolia	Slender Rice Flower																																
Plantago lanceolata	Lamb's Tongues																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Plantago varia	-																																
Poa labillardierei var. *labillardierei*	Tussock																																
Poa sieberiana	Snowgrass																																
Poa sieberiana var. *cyanophylla*	-																																
Poa sieberiana var. *sieberiana*	Snowgrass																									0.2	1						
Poa sp.	-																											1	1				
Polycarpon tetraphyllum	Four-leaved Allseed																																
Polygonum aviculare	Wireweed																																
Polygonum sp.	-																	0.1	1														
Polypogon monspeliensis	Annual Beardgrass																																
Pomax umbellata	Pomax																																
Poranthera microphylla	Small Poranthera															0.2	1									0.1	1						
Pseudognaphalium luteoalbum	Jersey Cudweed																																
Pultenaea microphylla	A Bush Pea																																
Pultenaea procumbens	-																																
Pultenaea sp.	-																																
Pultenaea subspicata	Low Bush-pea																																
Rhytidosporum procumbens	-																																
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rubus anglocandicans	Blackberry													0.5	1																		
Rubus fruticosus sp. *agg.*	Blackberry complex	0.1	1	10	1			0.5	1	0.1	1	30	1			0.1	1	0.1	1	0.1	1							0.1	1			0.1	1
Rumex acetosella	Sheep Sorrel							5	1	15	1			0.1	1	1	1	0.2	1	0.1	1	0.1	1	0.1	1	0.1	1	0.2	1			0.5	1
Rumex brownii	Swamp Dock	0.3	1	0.2	1	5	1	5	1	0.1	1	0.2	1					0.1	1	0.1	1												
Rumex crispus	Curled Dock																																
Rytidosperma auriculatum	Lobed Wallaby Grass	5	1					15	1	15	1	10	1																				
Rytidosperma caespitosum	Ringed Wallaby Grass							0.1	1					15	1																		
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma duttonianum	Brown-back Wallaby Grass																																
Rytidosperma erianthum	Wallaby Grass																																
Rytidosperma fulvum	Wallaby Grass																																
Rytidosperma laeve	Wallaby Grass																																
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass															0.2	1																
Rytidosperma racemosum	Wallaby Grass																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG01962 0		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma setaceum	Small-flowered Wallaby-grass																																
Rytidosperma sp.	-															0.2	2	20.1	3	35	1	26	2	0.1	1	0.1	1	3	3	1.4	3	2	2
Schoenus apogon	Fluke Bogrush																			0.5	1												
Schoenus sp.	-																																
Scleranthus biflorus	Two-flowered Knawel																																
Scutellaria humilis	Dwarf Skullcap									1	1																						
Senecio prenanthoides	-																																
Senecio quadridentatus	Cotton Fireweed																																
Setaria italica	Foxtail Millet																																
Setaria parviflora	-																																
Setaria sp.	-																																
Setaria verticillata	Whorled Pigeon Grass																							0.1	1							0.1	1
Sida sp. *A*	-																																
Silybum marianum	Variegated Thistle			1	1									0.1	1																		
Sisyrinchium micranthum	Blue Pigroot																			0.1	1												
Solanum nigrum	Black-berry Nightshade	0.2	1	0.5	1	1	1	0.5	1	0.2	1													0.1	1								
Solenogyne dominii	-																			0.2	1												
Sonchus asper	Prickly Sowthistle	0.1	1	0.5	1	0.2	1	0.2	1	0.2	1																						

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG01962 0		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Sonchus oleraceus	Common Sowthistle			0.1	1	0.1	1																										
Spergularia rubra	Sandspurry																							0.1	1	0.1	1					0.1	1
Stellaria media	Common Chickweed															0.1	1																
Stylidium graminifolium	Grass Triggerplant																																
Stylidium lineare	Narrow-leaved Triggerplant																																
Stypandra glauca	Nodding Blue Lily															2	1									0.1	1						
Taraxacum officinale	Dandelion																																
Thelymitra sp.	-																																
Themeda triandra	Kangaroo Grass																																
Thysanotus tuberosus	Common Fringe-lily																																
Thysanotus tuberosus subsp. *tuberosus*	-																																
Tolpis barbata	Yellow Hawkweed																							0.1	1					0.5	1		
Tolpis umbellata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily									0.1	1																						
Trifolium angustifolium	Narrow-leaved Clover																																
Trifolium arvense	Haresfoot Clover									0.1	1																						

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG01601		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Trifolium campestre	Hop Clover			0.2	1							5	1																				
Trifolium dubium	Yellow Suckling Clover																																
Trifolium glomeratum	Clustered Clover																	0.1	1									0.1	1			0.5	1
Trifolium repens	White Clover																																
Trifolium subterraneum	Subterranean Clover	10	1			60	1	20	1	10	1			0.1	1			0.5	1	0.1	1			1	1			0.3	1			1	1
Triptilodiscus pygmaeus	Common Sunray																																
Urtica incisa	Stinging Nettle													0.1	1																		
Urtica urens	Small Nettle	0.1	1																														
Velleia paradoxa	-																																
Verbascum thapsus	Aarons Rod																							0.1	1								
Veronica calycina	Hairy Speedwell																																
Veronica plebeia	Trailing Speedwell																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																																
Vulpia bromoides	Squirrel Tail Fesque																																
Vulpia myuros	Rat's Tail Fescue															10	1	0.5	1	0.1	1												
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																																

Scientific Name	Common Name	YG013197		YG013560		YG01368F		YG013BA5		YG013C04		YG013C29		YG014754		YG016001		YG0172F3		YG017816		YG01909F		YG019179		YG01933B		YG0193DC		YG019620		YG019D51	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Wahlenbergia luteola	Bluebell																																
Wahlenbergia multicaulis	Tadgell's Bluebell																			0.1	1									0.1	1		
Wahlenbergia sp.	Bluebell															0.1	1																
Wahlenbergia stricta	Tall Bluebell																																
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell																																
Xanthium spinosum	Bathurst Burr									0.1	1																						
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 15: Murrumbateman BAM floristic data

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle												
Acacia deanei	Green Wattle												
Acacia decurrens	Black Wattle												
Acacia falciformis	Broad-leaved Hickory												
Acacia gunnii	Ploughshare Wattle												
Acacia havilandiorum	Haviland's Wattle												
Acacia mearnsii	Black Wattle												
Acacia paradoxa	Kangaroo Thorn												
Acacia parramattensis	Parramatta Wattle												
Acacia sp.	Wattle												
Acaena ovina	Acaena	0.1	1										
Agrostis capillaris	Browntop Bent												
Aira caryophyllea	Silvery Hairgrass												
Aira cupaniana	Silvery Hairgrass	0.1	1			0.1	1						
Aira elegantissima	Delicate Hairgrass												
Alternanthera denticulata	Lesser Joyweed												
Alternanthera nana	Hairy Joyweed												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Amaranthus retroflexus	Redroot Amaranth												
Ammobium craspedioides	Yass Daisy	0.1	1										
Amyema miquelii	Box Mistletoe												
Amyema sp.	Mistletoe												
Anthoxanthum odoratum	Sweet Vernal Grass											1	1
Arctotheca calendula	Capeweed			5	1							0.1	1
Aristida acuta	-												
Aristida personata	-												
Aristida ramosa	Purple Wiregrass												
Aristida vagans	Threeawn Speargrass					25	1						
Arthropodium milleflorum	Pale Vanilla-lily												
Arthropodium minus	Small Vanilla Lily					0.1	1						
Asperula conferta	Common Woodruff					0.1	1						
Astroloma humifusum	Native Cranberry												
Astroloma pinifolium	Pine Heath												
Austrostipa bigeniculata	Yanganbil												
Austrostipa densiflora	Foxtail Speargrass												
Austrostipa scabra	Speargrass					0.1	1						
Austrostipa scabra subsp. *scabra*	Rough Speargrass												
Austrostipa sp.	A Speargrass												
Austrostipa verticillata	Slender Bamboo Grass												
Avena barbata	Bearded Oats					0.1	1						
Avena fatua	Wild Oats												
Avena sativa	Oats												
Axonopus fissifolius	Narrow-leafed Carpet Grass												
Billardiera scandens	Hairy Apple Berry												
Bothriochloa macra	Red Grass							0.1	1	0.1	1	0.1	1
Brachychiton populneus	Kurrajong												
Brachyloma daphnoides	Daphne Heath												
Brachyscome dentata	-												
Brassica rapa	-												
Briza maxima	Quaking Grass	5	1			20	1						
Briza minor	Shivery Grass												
Briza subaristata	-	0.1	1			0.2	1						
Bromus cartharticus	Prairie Grass												
Bromus catharticus	Praire Grass												
Bromus diandrus	Great Brome	0.1	1			0.1	1						

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Bromus hordeaceus	Soft Brome	0.1	1							0.1	1		
Bromus molliformis	Soft Brome												
Bromus rubens	Red Brome												
Bromus sp.	A Brome												
Bulbine bulbosa	Bulbine Lily												
Bursaria spinosa	Native Blackthorn												
Calochilus sp.	-												
Calochlaena dubia	Rainbow Fern												
Capsella bursa-pastoris	Shepherd's Purse												
Carduus pycnocephalus	Slender Thistle	0.1	1										
Carex appressa	Tall Sedge											35	1
Carex incomitata	-												
Carex inversa	Knob Sedge											0.1	1
Carex sp.	-												
Carthamus lanatus	Saffron Thistle			0.1	1								
Cassinia arcuata	Sifton Bush												
Cassinia quinquefaria	-												
Cassinia sp.	-												
Cassytha melantha	-												
Cassytha pubescens	Downy Dodder-laurel												
Cassytha sp.	-												
Celmisia longifolia	Snow Daisy												
Centaurium erythraea	Common Centaury											0.1	1
Centaurium tenuiflorum	Branched Centaury, Slender centaury	0.1	1			0.1	1						
Cerastium glomeratum	Mouse-ear Chickweed												
Chamaesyce drummondii	Caustic Weed												
Cheilanthes sieberi	Rock Fern					0.2	1						
Cheilanthes sieberi subsp. *sieberi*	Rock Fern												
Cheiranthera linearis	Finger Flower												
Chloris truncata	Windmill Grass												
Chondrilla juncea	Skeleton Weed												
Chrysocephalum apiculatum	Common Everlasting												
Cirsium arvense	Perennial Thistle												
Cirsium vulgare	Spear Thistle	0.1	1										
Comesperma ericinum	Pyramid Flower												
Comesperma sphaerocarpum	-												
Comesperma volubile	-												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Convolvulus angustissimus	-												
Convolvulus arvensis	Field Bindweed	0.1	1										
Conyza bonariensis	Flaxleaf Fleabane												
Coronidium elatum	-												
Cotula australis	Common Cotula												
Crassula sieberiana	Australian Stonecrop					0.1	1						
Crepis capillaris	Smooth Hawksbeard												
Cucumis myriocarpus	Paddy Melon												
Cymbonotus lawsonianus	Bear's Ear												
Cynodon dactylon	Common Couch												
Cynosurus echinatus	Rough Dog's Tail												
Cyperus eragrostis	Umbrella Sedge												
Cyperus gracilis	Slender Flat-sedge												
Cyperus sanguinolentus	-												
Dactylis glomerata	Cocksfoot												
Dactyloctenium aegyptium	Coast Button Grass												
Daucus glochidiatus	Native Carrot	0.1	1			0.1	1						
Daviesia mimosoides subsp. *mimosoides*	-												
Desmodium gunnii	Slender Tick-trefoil					0.1	1						
Desmodium varians	Slender Tick-trefoil												
Dianella caerulea	Blue Flax-lily												
Dianella longifolia	Blueberry Lily												
Dianella revoluta	Blueberry Lily												
Dichelachne crinita	Longhair Plumegrass												
Dichelachne micrantha	Shorthair Plumegrass												
Dichelachne rara	-												
Dichelachne sp.	A Plumegrass												
Dichondra repens	Kidney Weed	0.2	1			0.1	1						
Dichopogon sp.	Chocolate Lily												
Digitaria ciliaris	Summer Grass												
Digitaria diffusa	Open Summer-grass												
Digitaria sanguinalis	Crab Grass												
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas												
Dillwynia sp.	-												
Diuris sulphurea	Tiger Orchid												
Drosera peltata	A Sundew	0.1	1			0.1	1						
Dysphania pumilio	Small Crumbweed												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Dysphania sp.	-			5	1					0.1	1		
Echinopogon caespitosus	Bushy Hedgehog-grass												
Echinopogon ovatus	Forest Hedgehog Grass												
Echinopogon sp.	A Hedgehog Grass												
Echium plantagineum	Patterson's Curse												
Einadia nutans	Climbing Saltbush												
Eleusine tristachya	Goose Grass												
Elymus scaber	Common Wheatgrass												
Enneapogon nigricans	Niggerheads												
Enteropogon acicularis	Curly Windmill Grass												
Epilobium billardierianum	-												
Epilobium ciliatum	-												
Eragrostis brownii	Brown's Lovegrass							1	1			1	1
Eragrostis cilianensis	Stinkgrass												
Eragrostis curvula	African Lovegrass												
Eragrostis elongata	Clustered Lovegrass												
Eragrostis leptostachya	Paddock Lovegrass												
Eragrostis parviflora	Weeping Lovegrass							0.1	1				
Eragrostis sp.	A Lovegrass												
Eragrostis trachycarpa	A Lovegrass											0.5	1
Erodium botrys	Long Storksbill									0.1	1		
Erodium cicutarium	Common Crowfoot			0.1	1								
Erodium moschatum	Musky Crowfoot												
Eucalyptus albens	White Box												
Eucalyptus blakelyi	Blakely's Red Gum	10	1										
Eucalyptus bridgesiana	Apple Box												
Eucalyptus cinerea	Argyle Apple												
Eucalyptus dives	Broad-leaved Peppermint												
Eucalyptus goniocalyx	Bundy	5	1										
Eucalyptus macrorhyncha	Red Stringybark	15	1							2	1		
Eucalyptus mannifera	Brittle Gum												
Eucalyptus melliodora	Yellow Box												
Eucalyptus polyanthemos	Red Box												
Eucalyptus polyanthemos subsp. *polyanthemos*	-												
Eucalyptus rossii	Inland Scribbly Gum												
Eucalyptus sp.	-												
Euchiton involucratus	Star Cudweed											0.1	1

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Euchiton japonicus	-					0.1	1						
Euchiton sphaericus	Star Cudweed												
Exocarpos cupressiformis	Cherry Ballart												
Gahnia sp.	-												
Galium aparine	Goosegrass												
Gamochaeta americana	Cudweed	0.1	1										
Genoplesium sp.	-												
Geranium molle	Cranesbill Geranium	0.1	1										
Geranium potentilloides	-												
Geranium solanderi	Native Geranium												
Geranium solanderi var. *solanderi*	-												
Geranium sp.	-												
Glycine canescens	Silky Glycine												
Glycine clandestina	Twining glycine												
Gompholobium glabratum	Dainty Wedge Pea												
Gompholobium huegelii	Pale Wedge Pea												
Gompholobium sp.	-												
Gonocarpus elatus	A Raspwort												
Gonocarpus tetragynus	Poverty Raspwort	0.1	1										
Goodenia bellidifolia	-												
Goodenia hederacea	Ivy Goodenia												
Goodenia hederacea subsp. *hederacea*	-												
Goodenia sp.	-												
Grevillea lanigera	Woolly Grevillea												
Haloragis heterophylla	Variable Raspwort											0.5	1
Hardenbergia violacea	False Sarsaparilla												
Hibbertia calycina	Lesser Guinea Flower												
Hibbertia obtusifolia	Hoary Guinea Flower	0.5	1										
Hibbertia riparia	-												
Hibbertia sp.	-												
Holcus lanatus	Yorkshire Fog	8	1	1	1	0.1	1	45	1	5	1	10	1
Hordeum leporinum	Barley Grass			0.1	1								
Hordeum murinum	Barley-grass												
Hovea heterophylla	-												
Hovea lanceolata	-												
Hovea linearis	-												
Hydrocotyle laxiflora	Stinking Pennywort	1	1										

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Hypericum gramineum	Small St John's Wort					0.1	1	0.1	1	0.1	1	0.1	1
Hypericum perforatum	St. Johns Wort												
Hypochaeris glabra	Smooth Catsear												
Hypochaeris radicata	Catsear	0.3	1			2	1	0.1	1	0.1	1	0.1	1
Indigofera australis	Australian Indigo												
Isotoma fluviatilis	Swamp Isotome												
Isotoma fluviatilis subsp. *australis*	-												
Juncaceae indeterminate	Rushes												
Juncus australis	Rush									0.2	1	1	1
Juncus bufonius	Toad Rush												
Juncus capitatus	-											0.1	1
Juncus continuus	-												
Juncus filicaulis	-											0.1	1
Juncus flavidus	-							0.5	1				
Juncus sp.	A Rush												
Juncus subsecundus	Finger Rush							0.1	1				
Juncus usitatus	-												
Kunzea ericoides	Burgan												
Lactuca serriola	Prickly Lettuce												
Lasiopetalum sp.	-												
Lepidosperma laterale	Variable Sword-sedge												
Leptospermum multicaule	Silver Tea-tree												
Leptospermum sp.	Tea-tree												
Leucochrysum albicans var. *tricolor*	Hoary Sunray												
Leucopogon fletcheri	-												
Leucopogon muticus	Blunt Beard-heath												
Leucopogon sp.	A Beard-heath												
Linaria pelisseriana	Pelisser's Toadflax												
Linum trigynum	French Flax					0.1	1						
Lissanthe strigosa	Peach Heath												
Lolium multiflorum	Italian Ryegrass			80	1								
Lolium perenne	Perennial Ryegrass	0.1	1	5	1								
Lolium rigidum	Wimmera Ryegrass												
Lomandra bracteata	Mat-rush					0.2	1						
Lomandra confertifolia	Matrush												
Lomandra filiformis	Wattle Matt-rush												
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Lomandra filiformis subsp. *filiformis*	-												
Lomandra glauca	Pale Mat-rush												
Lomandra longifolia	Spiny-headed Mat-rush												
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush												
Luzula densiflora	Woodrush	0.1	1										
Lysimachia arvensis	Scarlet Pimpernel												
Lythrum hyssopifolia	Hyssop Loosestrife							0.1	1	0.1	1	0.2	1
Malus domestica	Apple												
Malva neglecta	Dwarf Mallow												
Malva parviflora	Small-flowered Mallow												
Marrubium vulgare	White Horehound												
Medicago minima	Woolly Burr Medic												
Megathyrsus maximus	-												
Melichrus urceolatus	Urn Heath												
Mentha pulegium	Pennyroyal												
Mentha satureioides	Native Pennyroyal												
Microlaena stipoides	Weeping Grass							25	1				
Microlaena stipoides var. *stipoides*	Weeping Grass	20	1			0.5	1			50	1	10	1
Microtis parviflora	Slender Onion Orchid					0.1	1						
Microtis rara	Scented Onion Orchid												
Microtis sp.	-												
Mirbelia oxylobioides	Mountain Mirbelia												
Modiola caroliniana	Red-flowered Mallow												
Monotoca scoparia	-												
Nassella neesiana	Chilean Needle Grass												
Nassella trichotoma	Serrated Tussock												
Nothoscordum inodorum	Onion Weed												
Onopordum acanthium	Scotch Thistle												
Opercularia diphylla	Stinkweed												
Opercularia varia	Variable Stinkweed												
Orchidaceae indeterminate	Orchids												
Orobanche minor	Broomrape												
Oxalis exilis	-												
Oxalis perennans	-	0.1	1			0.1	1			0.1	1	0.1	1
Oxalis sp.	-												
Oxalis thompsoniae	-												
Panicum capillare	Witchgrass												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Panicum effusum	Hairy Panic												
Panicum simile	Two-colour Panic												
Panicum sp.	Panicum												
Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow	0.1	1										
Paspalum dilatatum	Paspalum												
Patersonia sericea	Silky Purple-Flag												
Patersonia sp.	-												
Persicaria prostrata	Creeping Knotweed												
Persoonia rigida	-												
Petrorhagia dubia	-					0.1	1						
Petrorhagia nanteuilii	Proliferous Pink												
Phalaris aquatica	Phalaris												
Phleum pratense	Timothy	1	1			1	1						
Phyllanthus virgatus	Wiry Spurge												
Phytolacca octandra	Inkweed												
Pimelea linifolia	Slender Rice Flower												
Plantago lanceolata	Lamb's Tongues												
Plantago varia	-												
Poa labillardierei var. *labillardierei*	Tussock	0.2	1										
Poa sieberiana	Snowgrass												
Poa sieberiana var. *cyanophylla*	-												
Poa sieberiana var. *sieberiana*	Snowgrass												
Poa sp.	-												
Polycarpon tetraphyllum	Four-leaved Allseed												
Polygonum aviculare	Wireweed												
Polygonum sp.	-												
Polypogon monspeliensis	Annual Beardgrass												
Pomax umbellata	Pomax												
Poranthera microphylla	Small Poranthera												
Pseudognaphalium luteoalbum	Jersey Cudweed			0.1	1								
Pultenaea microphylla	A Bush Pea												
Pultenaea procumbens	-												
Pultenaea sp.	-												
Pultenaea subspicata	Low Bush-pea												
Rhytidosporum procumbens	-												
Romulea rosea	Onion Weed					0.1	1						
Rosa rubiginosa	Sweet Briar												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Rubus anglocandicans	Blackberry			0.1	1								
Rubus fruticosus sp. *agg.*	Blackberry complex	0.1	1										
Rumex acetosella	Sheep Sorrel	0.1	1					0.1	1	0.1	1	0.1	1
Rumex brownii	Swamp Dock									0.1	1	0.1	1
Rumex crispus	Curled Dock												
Rytidosperma auriculatum	Lobed Wallaby Grass												
Rytidosperma caespitosum	Ringed Wallaby Grass												
Rytidosperma carphoides	Short Wallaby Grass												
Rytidosperma duttonianum	Brown-back Wallaby Grass												
Rytidosperma erianthum	Wallaby Grass												
Rytidosperma fulvum	Wallaby Grass												
Rytidosperma laeve	Wallaby Grass												
Rytidosperma pallidum	Redanther Wallaby Grass; Silvertop Wallaby Grass					1	1						
Rytidosperma racemosum	Wallaby Grass												
Rytidosperma setaceum	Small-flowered Wallaby-grass												
Rytidosperma sp.	-					0.1	1	1	1	1	1	2	2
Schoenus apogon	Fluke Bogrush					0.5	1	0.1	1			0.5	1
Schoenus sp.	-												
Scleranthus biflorus	Two-flowered Knawel												
Scutellaria humilis	Dwarf Skullcap												
Senecio prenanthoides	-												
Senecio quadridentatus	Cotton Fireweed												
Setaria italica	Foxtail Millet												
Setaria parviflora	-												
Setaria sp.	-												
Setaria verticillata	Whorled Pigeon Grass							1	1	0.3	1	1	1
Sida sp. *A*	-												
Silybum marianum	Variegated Thistle												
Sisyrinchium micranthum	Blue Pigroot												
Solanum nigrum	Black-berry Nightshade			0.1	1					0.1	1		
Solenogyne dominii	-												
Sonchus asper	Prickly Sowthistle	0.1	1										
Sonchus oleraceus	Common Sowthistle	0.1	1										
Spergularia rubra	Sandspurry												
Stellaria media	Common Chickweed	0.1	1										
Stylidium graminifolium	Grass Triggerplant												
Stylidium lineare	Narrow-leaved Triggerplant												

Scientific Name	Common Name	YG02001		YG020554		YG02401		YG02634E		YG026A72		YG026MP1	
		C	A	C	A	C	A	C	A	C	A	C	A
Stypandra glauca	Nodding Blue Lily												
Taraxacum officinale	Dandelion												
Thelymitra sp.	-												
Themeda triandra	Kangaroo Grass					40	1					5	1
Thysanotus tuberosus	Common Fringe-lily												
Thysanotus tuberosus subsp. *tuberosus*	-												
Tolpis barbata	Yellow Hawkweed					0.1	1						
Tolpis umbellata	Yellow Hawkweed												
Tricoryne elatior	Yellow Autumn-lily												
Trifolium angustifolium	Narrow-leaved Clover					0.1	1						
Trifolium arvense	Haresfoot Clover			0.1	1	0.1	1						
Trifolium campestre	Hop Clover	1	1			0.1	1						
Trifolium dubium	Yellow Suckling Clover												
Trifolium glomeratum	Clustered Clover												
Trifolium repens	White Clover	0.1	1	0.1	1	0.1	1						
Trifolium subterraneum	Subterranean Clover			0.5	1			1	1	2	1	0.5	1
Triptilodiscus pygmaeus	Common Sunray					0.1	1						
Urtica incisa	Stinging Nettle												
Urtica urens	Small Nettle												
Velleia paradoxa	-												
Verbascum thapsus	Aarons Rod												
Veronica calycina	Hairy Speedwell												
Veronica plebeia	Trailing Speedwell												
Viola betonicifolia	Native Violet												
Vittadinia cuneata	A Fuzzweed												
Vulpia bromoides	Squirrel Tail Fesque	55	1										
Vulpia myuros	Rat's Tail Fescue					5	1	0.1	1	0.1	1		
Wahlenbergia communis	Tufted Bluebell												
Wahlenbergia gracilis	Sprawling Bluebell	0.1	1										
Wahlenbergia luteola	Bluebell												
Wahlenbergia multicaulis	Tadgell's Bluebell	0.1	1			0.1	1						
Wahlenbergia sp.	Bluebell												
Wahlenbergia stricta	Tall Bluebell												
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell												
Xanthium spinosum	Bathurst Burr												
Xerochrysum viscosum	Sticky Everlasting												

Table A5- 16: Inland Slopes BAM floristic data

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Abelia chinensis	-																																
Acacia buxifolia	Box-leaved Wattle																																
Acacia falciformis	Broad-leaved Hickory																																
Acacia genistifolia	Early Wattle																																
Acacia implexa	Hickory Wattle																															0.2	1
Acacia melanoxylon	Blackwood																			0.2	1												
Acacia paradoxa	Kangaroo Thorn																																
Acacia rubida	Red-stemmed Wattle																																
Acaena novae-zelandiae	Bidgee-widgee																															0.2	1
Acaena ovina	Acaena					0.1	1									0.1	1	0.1	1														
Acrotriche serrulata	Honeypots															0.2	1																
Adiantum aethiopicum	Common Maidenhair																			0.1	1												
Agrostis sp.	Bent Grass																															1	1
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass																																
Allocasuarina verticillata	Drooping Sheoak																	5	1													3	1
Alternanthera denticulata	Lesser Joyweed																																
Alternanthera nana	Hairy Joyweed																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amaranthus retroflexus	Redroot Amaranth																																
Amaranthus sp.	Amaranth																																
Amyema cambagei	Needle-leaf Mistletoe																																
Amyema sp.	Mistletoe																																
Arctotheca calendula	Capeweed													0.2	1													0.1	1				
Aristida behriana	Bunch Wiregrass																																
Aristida ramosa	Purple Wiregrass																															0.1	1
Arthropodium milleflorum	Pale Vanilla-lily																																
Arthropodium sp.	-																																
Austrostipa aristiglumis	Plains Grass																																
Austrostipa bigeniculata	Yanganbil					5	1	5	1	0.1	1																						
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa ramosissima	Stout Bamboo Grass																																
Austrostipa scabra	Speargrass	5	1					1	1	0.1	1			15	1	10	1	35	1													0.3	1
Austrostipa scabra subsp. *falcata*	Rough Speargrass																																
Austrostipa sp.	A Speargrass	10	1																														
Avena barbata	Bearded Oats			0.1	1																											0.5	1
Avena fatua	Wild Oats	3	1																			10	1			10	1	1	1	10	1		
Avena sativa	Oats																																
Billardiera scandens	Hairy Apple Berry																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Bothriochloa macra	Red Grass			60	1			0.1	1	5	1					2	1	0.1	1									15	1	65	1	0.1	1
Brachychiton populneus	Kurrajong																																
Brachychiton populneus subsp. *populneus*	-																																
Brachyloma daphnoides	Daphne Heath																																
Brachypodium distachyon	False Brome													2	1																		
Briza maxima	Quaking Grass																	0.1	1														
Briza minor	Shivery Grass																			0.3	1												
Bromus cartharticus	Prairie Grass			1	1	5	1																										
Bromus catharticus	Praire Grass																													10	1		
Bromus diandrus	Great Brome																																
Bromus hordeaceus	Soft Brome																															1	1
Bromus molliformis	Soft Brome	0.2	1																														
Bromus racemosus	Smooth Brome																																
Bromus rubens	Red Brome																					1	1										
Bursaria spinosa subsp. *lasiophylla*	Native Blackthorn																			10	1												
Callitris glaucophylla	White Cypress Pine																																
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge																																
Carex breviculmis	-																															0.1	1

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Carex inversa	Knob Sedge																							0.1	1								
Carthamus lanatus	Saffron Thistle	0.2	1							0.1	1	0.1	1															0.1	1	0.5	1		
Cassinia aculeata	Dolly Bush																			0.5	1												
Cassinia laevis	Cough Bush																																
Cassinia longifolia	-																																
Cassytha glabella	-																																
Casuarina cunninghamiana subsp. *cunninghamiana*	River Oak																																
Cenchrus ciliaris	Buffel Grass																																
Cenchrus clandestinus	Kikuyu																																
Cenchrus sp.	-																																
Centaurea solstitialis	St Barnabys Thistle															50	1	5	1			15	1	0.1	1							0.3	1
Centaurium erythraea	Common Centaury									0.1	1					0.1	1	0.1	1	1	1												
Chamaesyce dallachyana	-																																
Chamaesyce drummondii	Caustic Weed																																
Cheilanthes austrotenuifolia	Rock Fern																																
Cheilanthes sieberi	Rock Fern																															0.5	1
Chenopodium album	Fat Hen																																
Chenopodium murale	Nettle-leaf Goosefoot																																
Chloris truncata	Windmill Grass			0.1	1											0.5	1																
Chondrilla juncea	Skeleton Weed					0.1	1					0.1	1													0.1	1			0.1	1		

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cirsium arvense	Perennial Thistle																							0.1	1								
Cirsium vulgare	Spear Thistle			0.1	1	5	1	0.5	1			0.1	1	0.1	1																	2	1
Citrullus lanatus	-																																
Clematis aristata	Old Man's Beard																			0.1	1												
Clematis microphylla	Small-leaved Clematis																															0.2	1
Convolvulus angustissimus	-																															0.3	1
Convolvulus erubescens	Pink Bindweed															0.5	1																
Conyza bonariensis	Flaxleaf Fleabane	0.1	1															0.1	1	0.1	1			0.1	1								
Conyza sumatrensis	Tall fleabane																																
Correa reflexa	Native Fuschia																																
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard																																
Cucumis melo subsp. *melo*	-																																
Cucumis myriocarpus	Paddy Melon													0.2	1													0.5	1				
Cynodon dactylon	Common Couch			0.1	1	2	1	10	1	0.5	1			1	1																		
Cynodon dactylon var. *dactylon*	Couch																																
Cynoglossum suaveolens	Sweet Hound's-tongue																																
Cynosurus echinatus	Rough Dog's Tail																																
Cyperus eragrostis	Umbrella Sedge																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cyperus sp.	-			0.1	1																												
Dactylis glomerata	Cocksfoot					5	1																										
Dactyloctenium aegyptium	Coast Button Grass																																
Desmodium varians	Slender Tick-trefoil																																
Dianella revoluta var. *revoluta*	A Blue Flax Lily																							0.1	1								
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne sieberiana	-																																
Dichondra repens	Kidney Weed	5	1																	3	1												
Dichopogon fimbriatus	Nodding Chocolate Lily																																
Digitaria brownii	Cotton Panic Grass																																
Digitaria ciliaris	Summer Grass																																
Digitaria divaricatissima	Umbrella Grass																																
Digitaria ischaemum	-																									2	1						
Digitaria sanguinalis	Crab Grass									0.1	1																						
Digitaria sp.	A Finger Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																																
Dipodium roseum	-																																
Dodonaea viscosa	Sticky Hop-bush																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dysphania pumilio	Small Crumbweed													10	1									0.1	1	1	1	5	1	0.1	1		
Dysphania sp.	-																																
Echinochloa colona	Awnless Barnyard Grass																																
Echinochloa crus-galli	Barnyard Grass																																
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon intermedius	Erect Hedgehog Grass																																
Echinopogon ovatus	Forest Hedgehog Grass																			5	1												
Echium plantagineum	Patterson's Curse	0.1	1																			0.2	1										
Echium vulgare	Viper's Bugloss																																
Ehrharta erecta	Panic Veldtgrass																																
Einadia hastata	Berry Saltbush																															0.3	1
Einadia nutans	Climbing Saltbush													0.2	1									0.1	1							0.1	1
Eleocharis pusilla	-																																
Eleusine indica	Crowsfoot Grass							0.1	1																								
Eleusine tristachya	Goose Grass			0.1	1	0.1	1																					0.1	1				
Elymus scaber	Common Wheatgrass			5	1			0.1	1	0.1	1																					0.5	1
Enneapogon nigricans	Niggerheads																																
Entolasia marginata	Bordered Panic																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Epilobium billardierianum	-																																
Epilobium hirtigerum	-																																
Eragrostis alveiformis	-																																
Eragrostis brownii	Brown's Lovegrass													2	1															0.1	1		
Eragrostis cilianensis	Stinkgrass							1	1	5	1																						
Eragrostis curvula	African Lovegrass																																
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass									0.5	1																	0.1	1				
Eragrostis minor	-																																
Eragrostis parviflora	Weeping Lovegrass			10	1																												
Eragrostis sp.	A Lovegrass																																
Eragrostis trachycarpa	A Lovegrass																																
Erodium botrys	Long Storksbill																																
Erodium cicutarium	Common Crowfoot																																
Eucalyptus albens	White Box	25	1																					35	1			30	1	5	1		
Eucalyptus blakelyi	Blakely's Red Gum			5	1			5	1																								
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus camphora subsp. *humeana*	-																																
Eucalyptus dives	Broad-leaved Peppermint																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY14588 2		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus goniocalyx	Bundy							20	1					20	1																		
Eucalyptus macrorhyncha	Red Stringybark																			5	1			5	1	25	1						
Eucalyptus melliodora	Yellow Box					5	1					10	1	5	1									15	1								
Eucalyptus nortonii	Large-flowered Bundy																			10	1											30	1
Eucalyptus polyanthemos	Red Box																																
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum																																
Eucalyptus sideroxylon	Mugga Ironbark																																
Euchiton involucratus	Star Cudweed																																
Euchiton japonicus	-																							0.1	1							0.1	1
Euchiton sphaericus	Star Cudweed			0.1	1			0.1	1									0.1	1														
Euphorbia dentata	-																																
Euphorbia heterophylla	-																																
Exocarpos cupressiformis	Cherry Ballart																															0.3	1
Gahnia sp.	-																			1	1												
Galium aparine	Goosegrass																																
Galium gaudichaudii	Rough Bedstraw																																
Galium propinquum	Maori Bedstraw																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Geranium homeanum	-																			3	1												
Geranium molle	Cranesbill Geranium											0.1	1																				
Geranium potentilloides	-																																
Geranium retrorsum	Cranesbill Geranium																							0.1	1								
Geranium solanderi	Native Geranium	0.1	1			0.1	1	0.1	1																	0.1	1	0.1	1				
Geranium solanderi var. *solanderi*	-																																
Geranium sp. *2*	-																																
Glycine clandestina	Twining Glycine																			0.1	1												
Glycine tabacina	Variable Glycine																							0.2	1								
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort																																
Goodenia hederacea	Ivy Goodenia																																
Haloragis heterophylla	Variable Raspwort																																
Hardenbergia violacea	False Sarsaparilla																																
Heliotropium europaeum	Potato Weed																																
Hibbertia obtusifolia	Hoary Guinea Flower																																
Holcus lanatus	Yorkshire Fog					0.2	1	0.1	1	0.5	1									4	1												
Hordeum leporinum	Barley Grass	0.2	1									0.5	1													1	1	0.1	1				

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hordeum murinum	Barley-grass																																
Hydrocotyle laxiflora	Stinking Pennywort																			0.2	1							0.1	1			0.1	1
Hypericum gramineum	Small St John's Wort			0.1	1																											0.2	1
Hypericum perforatum	St. Johns Wort															0.2	1			0.5	1	0.2	1							0.1	1	0.2	1
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear	0.1	1	0.1	1	0.1	1	0.1	1	0.2	1					0.1	1			1	1	0.2	1	2	1	1	1	0.2	1	1	1	0.5	1
Indigofera australis	Australian Indigo																																
Isotoma axillaris	Showy Isotome																																
Juncus australis	Rush			0.5	1			0.1	1																								
Juncus filicaulis	-																																
Juncus holoschoenus	-																																
Juncus homalocaulis	-																																
Juncus sp.	A Rush																																
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-			0.1	1																												
Lactuca saligna	Willow-leaved Lettuce																																
Lactuca serriola	Prickly Lettuce																											0.1	1				
Lepidosperma laterale	Variable Sword-sedge																																
Leucopogon ericoides	Pink Beard-heath																																
Lissanthe strigosa	Peach Heath																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lolium loliaceum	Stiff Ryegrass																											0.1	1				
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass	25	1					0.1	1																								
Lolium rigidum	Wimmera Ryegrass																																
Lomandra bracteata	Mat-rush																																
Lomandra filiformis	Wattle Matt-rush																	0.1	1														
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																															1	1
Lomandra filiformis subsp. *filiformis*	-																															0.3	1
Lomandra glauca	Pale Mat-rush																																
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																																
Lomandra sp.	Mat-rush																																
Ludwigia peploides subsp. *montevidensis*	Water Primrose																																
Lysimachia arvensis	Scarlet Pimpernel							0.1	1											0.1	1												
Lythrum hyssopifolia	Hyssop Loosestrife					0.1	1	0.1	1																								
Malva neglecta	Dwarf Mallow													0.1	1																		
Malva parviflora	Small-flowered Mallow																											0.1	1				
Marrubium vulgare	White Horehound											0.1	1																				

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Melichrus urceolatus	Urn Heath																			0.1	1												
Microlaena stipoides	Weeping Grass	0.5	1	0.1	1	35	1	10	1	10	1	50	1	0.2	1					20	1	20	1	7	1	10	1	20	1			3	1
Microlaena stipoides var. *stipoides*	Weeping Grass																																
Microtis sp.	-																																
Modiola caroliniana	Red-flowered Mallow																							0.1	1							0.2	1
Monotoca scoparia	-																																
Nassella neesiana	Chilean Needle Grass																																
Onopordum acanthium	Scotch Thistle	0.1	1			5	1					20	1																				
Opercularia varia	Variable Stinkweed																																
Orobanche minor	Broomrape																																
Oxalis exilis	-					0.1	1									0.1	1	0.1	1							0.1	1	0.1	1			0.2	1
Oxalis perennans	-	5	1	0.1	1									0.1	1							0.1	1	0.2	1								
Oxalis pes-caprae	Soursob																																
Oxalis sp.	-																																
Oxalis thompsoniae	-																													0.1	1		
Panicum capillare	Witchgrass																																
Panicum coloratum	Coolah Grass																																
Panicum decompositum	Native Millet																																
Panicum effusum	Hairy Panic			0.1	1					0.1	1					2	1	0.1	1									0.1	1			2	1
Panicum queenslandicum	Yadbila Grass																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paspalidium aversum	Bent Summer Grass																																
Paspalidium constrictum	Knottybutt Grass																									15	1	30	1	1	1		
Paspalidium distans	-																					12	1	2	1								
Paspalidium gracile	Slender Panic																																
Paspalidium jubiflorum	Warrego Grass																																
Paspalidium sp.	-																																
Paspalum dilatatum	Paspalum					0.2	1	0.1	1													20	1	1	1								
Paspalum distichum	Water Couch																																
Pellaea sp.	-																																
Persicaria decipiens	Slender Knotweed																																
Persicaria lapathifolia	Pale Knotweed																																
Persicaria prostrata	Creeping Knotweed																																
Persicaria subsessilis	Hairy Knotweed																																
Petrorhagia dubia	-																							0.1	1								
Petrorhagia nanteuilii	Proliferous Pink	0.2	1															0.1	1									0.2	1	0.2	1		
Phalaris aquatica	Phalaris					30	1	0.1	1											1	1												
Phragmites australis	Common Reed																																
Plantago lanceolata	Lamb's Tongues			0.1	1																	0.5	1	0.1	1								

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Plantago major	Large Plantain																																
Plantago varia	-																							0.1	1								
Platylobium formosum	-																																
Poa annua	Winter Grass																					0.1	1										
Poa labillardierei var. *labillardierei*	Tussock																																
Poa pratensis	Kentucky Bluegrass																																
Poa sieberiana	Snowgrass							0.1	1											0.2	1												
Poa sieberiana var. *sieberiana*	Snowgrass																															0.5	1
Poaceae indeterminate	Grasses, reeds and bamboos																																
Polygonum aviculare	Wireweed							0.1	1					0.1	1											0.1	1	0.1	1				
Polygonum sp.	-																																
Populus alba	White Poplar																																
Poranthera microphylla	Small Poranthera																																
Portulaca oleracea	Pigweed																																
Potentilla recta	-																					0.1	1										
Proboscidea louisianica	Purple-flowered Devil's Claw																																
Pseudognaphalium luteoalbum	Jersey Cudweed																																
Pteridium esculentum	Bracken																			0.1	1												
Ptilotus semilanatus	Lambs tails																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Ptilotus spathulatus f. spathulatus	Pussy-tails																															0.1	1
Pultenaea spinosa	A Bush Pea																																
Ricinocarpos bowmanii	-																	35	1													0.5	1
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar					0.2	1																							0.1	1		
Rubus anglocandicans	Blackberry																													0.1	1		
Rubus fruticosus sp. *agg.*	Blackberry complex																			1	1							0.1	1				
Rubus moorei	Silky Bramble																																
Rubus parvifolius	Native Raspberry																			0.2	1												
Rumex acetosella	Sheep Sorrel	0.5	1	1	1	1	1	0.5	1	0.5	1	0.1	1	5	1	0.5	1									1	1			0.1	1	1	1
Rumex brownii	Swamp Dock			0.1	1	0.2	1	0.1	1	0.1	1	0.1	1			0.1	1			0.1	1	0.5	1	0.2	2			0.1	1			0.1	1
Rumex crispus	Curled Dock																																
Rumex dumosus	Wiry Dock	0.1	1																														
Rytidosperma auriculatum	Lobed Wallaby Grass																																
Rytidosperma caespitosum	Ringed Wallaby Grass													5	1									0.2	1								
Rytidosperma carphoides	Short Wallaby Grass															0.5	1	10	1							5	1						
Rytidosperma oreophilum	-																															2	1
Rytidosperma racemosum	Wallaby Grass																					5	1			5	1	5	1				

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma setaceum	Small-flowered Wallaby-grass																							0.1	1								
Rytidosperma sp.	-			3	2	5	1	46	2	40	1	0.5	1																			2	1
Salvia verbenaca	Vervain																																
Schoenoplectus pungens	-																																
Schoenus apogon	Fluke Bogrush																															1	1
Scleranthus biflorus	Two-flowered Knawel																															0.2	1
Scutellaria humilis	Dwarf Skullcap																															0.2	1
Senecio bathurstianus	-																															0.1	1
Senecio madagascariensis	Fireweed																																
Senecio quadridentatus	Cotton Fireweed																	0.1	1					0.1	1								
Senecio sp.	Groundsel, Fireweed																																
Setaria gracilis	-																																
Setaria parviflora	-			0.1	1			1	1	0.1	1																						
Setaria sp.	-																																
Setaria verticillata	Whorled Pigeon Grass																																
Silybum marianum	Variegated Thistle	0.1	1									1	1															0.1	1				
Sisymbrium erysimoides	Smooth Mustard																																
Sisymbrium officinale	Hedge Mustard											0.3	1																				
Solanum cinereum	Narrawa Burr																													0.1	1		

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Solanum nigrum	Black-berry Nightshade	0.1	1											0.2	1									0.3	1			0.1	1				
Sonchus asper	Prickly Sowthistle																																
Sonchus oleraceus	Common Sowthistle	0.1	1			0.1	1	0.1	1															0.1	1								
Sorghum sp.	-																																
Sporobolus creber	Slender Rat's Tail Grass							0.1	1	0.1	1																						
Sporobolus sp.	Rat's Tail Couch																																
Spyridium parvifolium	Dusty Miller																															0.1	1
Stellaria media	Common Chickweed																							0.1	1								
Stypandra glauca	Nodding Blue Lily																																
Taraxacum officinale	Dandelion							0.1	1																								
Themeda triandra	Kangaroo Grass																															0.5	1
Tolpis barbata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																	0.1	1														
Trifolium angustifolium	Narrow-leaved Clover							0.1	1																								
Trifolium arvense	Haresfoot Clover	2	1													0.1	1	0.1	1			0.2	1	1	1			0.1	1	0.1	1	0.3	1
Trifolium campestre	Hop Clover	0.2	1											0.1	1																	0.3	1
Trifolium dubium	Yellow Suckling Clover			0.1	1																												
Trifolium fragiferum	Strawberry Clover																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Trifolium glomeratum	Clustered Clover																																
Trifolium incarnatum	Crimson Clover																																
Trifolium repens	White Clover	0.2	1									1	1													0.1	1	1	1				
Trifolium subterraneum	Subterranean Clover			0.5	1			0.1	1	2	1	1	1																				
Urtica incisa	Stinging Nettle											0.1	1																				
Urtica urens	Small Nettle													0.2	1																		
Verbascum thapsus	Aarons Rod	0.1	1																														
Verbascum virgatum	Twiggy Mullein															0.1	1	0.2	1														
Verbena bonariensis	Purpletop																																
Verbena rigida	Veined Verbena																			0.2	1												
Veronica anagallis-aquatica	Blue Water-speedwell																																
Vicia sativa	Common vetch																			0.1	1												
Viola betonicifolia	Native Violet																															0.1	1
Vittadinia cuneata	A Fuzzweed															0.2	1							0.1	1								
Vittadinia muelleri	A Fuzzweed																																
Vulpia muralis	Wall Fescue																																
Vulpia myuros	Rat's Tail Fescue	0.5	1																														
Wahlenbergia communis	Tufted Bluebell																															1	1
Wahlenbergia gracilis	Sprawling Bluebell																																

Scientific Name	Common Name	6699ABB5		BY143C11		BY14520E		BY14562F		BY145882		BY145C9B		BY15469A		MA-014A4		MA-014A5		MA021-01		MA05903-01		MA05905-01		MA-086A		MA-087A		MA-089A		MA089A15	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Wahlenbergia luteola	Bluebell															0.5	1	0.1	1													0.5	1
Wahlenbergia multicaulis	Tadgell's Bluebell																																
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell	0.1	1																														
Xanthium italicum	Hunter Burr																																
Xanthium occidentale	Noogoora Burr																																
Xanthium orientale	Californian Burr																																
Xanthium spinosum	Bathurst Burr																											0.1	1				
Xanthium strumarium	-									0.1	1																						
Xanthorrhoea glauca	-																																
Xanthorrhoea glauca subsp. *angustifolia*	-																															20	1
Xanthosia atkinsoniana	-																																
Xanthosia dissecta	Cut-leaved Xanthosia																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 17: Inland Slopes BAM floristic data

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM04585C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Abelia chinensis	-																																

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM045 85C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia buxifolia	Box-leaved Wattle															1	1																
Acacia falciformis	Broad-leaved Hickory																																
Acacia genistifolia	Early Wattle																							0.3	1	0.1	1						
Acacia implexa	Hickory Wattle															0.5	1																
Acacia melanoxylon	Blackwood																																
Acacia paradoxa	Kangaroo Thorn																																
Acacia rubida	Red-stemmed Wattle																																
Acaena novae-zelandiae	Bidgee-widgee																																
Acaena ovina	Acaena																																
Acrotriche serrulata	Honeypots																																
Adiantum aethiopicum	Common Maidenhair																																
Agrostis sp.	Bent Grass																																
Aira caryophyllea	Silvery Hairgrass																			0.1	1												
Aira cupaniana	Silvery Hairgrass																																
Allocasuarina verticillata	Drooping Sheoak	5	1																														
Alternanthera denticulata	Lesser Joyweed																																
Alternanthera nana	Hairy Joyweed											0.1	1					0.1	1														
Amaranthus retroflexus	Redroot Amaranth																											20	1				

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM045B5C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amaranthus sp.	Amaranth											0.1	1																				
Amyema cambagei	Needle-leaf Mistletoe																																
Amyema sp.	Mistletoe																							0.1	1	0.1	1						
Arctotheca calendula	Capeweed																																
Aristida behriana	Bunch Wiregrass																							0.1	1	0.5	1						
Aristida ramosa	Purple Wiregrass													1	1	0.1	1	10	1	10	1			0.5	1	5	1						
Arthropodium milleflorum	Pale Vanilla-lily															0.1	1																
Arthropodium sp.	-																																
Austrostipa aristiglumis	Plains Grass																																
Austrostipa bigeniculata	Yanganbil																																
Austrostipa densiflora	Foxtail Speargrass																							5	1	1	1						
Austrostipa ramosissima	Stout Bamboo Grass																																
Austrostipa scabra	Speargrass	50	1											5	1	0.5	1	0.5	1	0.5	1			1	1	25	1					2	1
Austrostipa scabra subsp. *falcata*	Rough Speargrass																																
Austrostipa sp.	A Speargrass																																
Avena barbata	Bearded Oats																			0.1	1							0.1	1				
Avena fatua	Wild Oats	5	1	25	1																												
Avena sativa	Oats																					0.1	1										

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM0458 5C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass			5	1									0.1	1	0.1	1	10	1	0.5	1			0.1	1	0.1	1					0.5	1
Brachychiton populneus	Kurrajong													0.1	1	0.5	1																
Brachychiton populneus subsp. *populneus*	-																																
Brachyloma daphnoides	Daphne Heath																																
Brachypodium distachyon	False Brome																																
Briza maxima	Quaking Grass																			0.1	1												
Briza minor	Shivery Grass																																
Bromus cartharticus	Prairie Grass			5	1																												
Bromus catharticus	Praire Grass													0.1	1																		
Bromus diandrus	Great Brome													0.1	1	0.1	1																
Bromus hordeaceus	Soft Brome																																
Bromus molliformis	Soft Brome											0.1	1					0.5	1							0.1	1					0.1	1
Bromus racemosus	Smooth Brome																																
Bromus rubens	Red Brome																																
Bursaria spinosa subsp. *lasiophylla*	Native Blackthorn																																
Callitris glaucophylla	White Cypress Pine													50	1					0.1	1			0.2	1								

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM04585C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge																							0.1	1								
Carex breviculmis	-																																
Carex inversa	Knob Sedge																																
Carthamus lanatus	Saffron Thistle	0.1	1																														
Cassinia aculeata	Dolly Bush																																
Cassinia laevis	Cough Bush																																
Cassinia longifolia	-																																
Cassytha glabella	-																																
Casuarina cunninghamiana subsp. *cunninghamiana*	River Oak																																
Cenchrus ciliaris	Buffel Grass																																
Cenchrus clandestinus	Kikuyu							0.3	1																								
Cenchrus sp.	-																																
Centaurea solstitialis	St Barnabys Thistle	0.1	1																														
Centaurium erythraea	Common Centaury			0.1	1																												
Chamaesyce dallachyana	-																							0.1	1	0.1	1						
Chamaesyce drummondii	Caustic Weed																													0.1	1		

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM04585C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cheilanthes austrotenuifolia	Rock Fern																																
Cheilanthes sieberi	Rock Fern													0.1	1	0.1	1	0.1	1	0.1	1			0.1	1								
Chenopodium album	Fat Hen																																
Chenopodium murale	Nettle-leaf Goosefoot																																
Chloris truncata	Windmill Grass											25	1	0.1	1	0.1	1	0.1	1	0.2	1	0.1	1			0.5	1	10	1				
Chondrilla juncea	Skeleton Weed															0.1	1																
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle			0.1	1					0.3	1																						
Citrullus lanatus	-																																
Clematis aristata	Old Man's Beard																																
Clematis microphylla	Small-leaved Clematis																																
Convolvulus angustissimus	-																																
Convolvulus erubescens	Pink Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane			0.1	1													0.1	1			0.1	1							1	1	0.1	1
Conyza sumatrensis	Tall fleabane																													0.5	1		
Correa reflexa	Native Fuschia																																
Crassula sieberiana	Australian Stonecrop							0.3	1																								
Crepis capillaris	Smooth Hawksbeard	0.1	1	0.1	1																												

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM0458 5C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cucumis melo subsp. *melo*	-																																
Cucumis myriocarpus	Paddy Melon	0.1	1									0.1	1			0.1	1									0.1	1	10	1	0.1	1	0.1	1
Cynodon dactylon	Common Couch											70	1					10	1			0.5	1					1	1	0.5	1	0.1	1
Cynodon dactylon var. *dactylon*	Couch							1	1	1	1																						
Cynoglossum suaveolens	Sweet Hound's-tongue																																
Cynosurus echinatus	Rough Dog's Tail																																
Cyperus eragrostis	Umbrella Sedge																																
Cyperus sp.	-																																
Dactylis glomerata	Cocksfoot							30	1																								
Dactyloctenium aegyptium	Coast Button Grass																																
Desmodium varians	Slender Tick-trefoil																																
Dianella revoluta var. *revoluta*	A Blue Flax Lily																																
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne sieberiana	-																																
Dichondra repens	Kidney Weed															0.1	1											0.1	1				
Dichopogon fimbriatus	Nodding Chocolate Lily																																

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM04585C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Digitaria brownii	Cotton Panic Grass																																
Digitaria ciliaris	Summer Grass																																
Digitaria divaricatissima	Umbrella Grass													1	1	10	1	15	1	1	1					1	1						
Digitaria ischaemum	-	0.1	1																														
Digitaria sanguinalis	Crab Grass					20	1	40	1	30	1	1	1									35	1							0.5	1		
Digitaria sp.	A Finger Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																																
Dipodium roseum																																	
Dodonaea viscosa	Sticky Hop-bush																																
Dysphania pumilio	Small Crumbweed	0.1	1									0.2	1	15	1	1	1					0.1	1			0.1	1	1	1	0.5	1	0.5	1
Dysphania sp.	-																																
Echinochloa colona	Awnless Barnyard Grass																																
Echinochloa crus-galli	Barnyard Grass											1	1							0.1	1									1	1	0.1	1
Echinopogon caespitosus	Bushy Hedgehog-grass																																
Echinopogon intermedius	Erect Hedgehog Grass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Echinopogon ovatus	Forest Hedgehog Grass																																
Echium plantagineum	Patterson's Curse																																
Echium vulgare	Viper's Bugloss											0.1	1																				
Ehrharta erecta	Panic Veldtgrass																																
Einadia hastata	Berry Saltbush																																
Einadia nutans	Climbing Saltbush					5	1	0.5	1	2	1															0.1	1					0.2	1
Eleocharis pusilla	-																																
Eleusine indica	Crowsfoot Grass																																
Eleusine tristachya	Goose Grass											1	1																			0.1	1
Elymus scaber	Common Wheatgrass	0.1	1	5	1													0.5	1					0.1	1	0.1	1					0.1	1
Enneapogon nigricans	Niggerheads																																
Entolasia marginata	Bordered Panic																																
Epilobium billardierianum	-																																
Epilobium hirtigerum	-																													0.1	1		
Eragrostis alveiformis	-																																
Eragrostis brownii	Brown's Lovegrass					0.3	1					0.1	1																				
Eragrostis cilianensis	Stinkgrass													0.1	1																		
Eragrostis curvula	African Lovegrass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eragrostis elongata	Clustered Lovegrass													2	1			5	1	5	1	0.1	1			0.5	1			0.1	1		
Eragrostis leptostachya	Paddock Lovegrass							0.1	1							0.1	1					1	1							5	1	0.1	1
Eragrostis minor	-																																
Eragrostis parviflora	Weeping Lovegrass													0.5	1			1	1	0.2	1	0.1	1										
Eragrostis sp.	A Lovegrass																			1	1					0.1	1						
Eragrostis trachycarpa	A Lovegrass																																
Erodium botrys	Long Storksbill																																
Erodium cicutarium	Common Crowfoot																																
Eucalyptus albens	White Box																															25	1
Eucalyptus blakelyi	Blakely's Red Gum															50	1											30	1				
Eucalyptus bridgesiana	Apple Box									50	1																						
Eucalyptus camphora subsp. *humeana*	-																																
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																																
Eucalyptus macrorhyncha	Red Stringybark																																
Eucalyptus melliodora	Yellow Box																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus nortonii	Large-flowered Bundy																																
Eucalyptus polyanthemos	Red Box																											5	1				
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum																																
Eucalyptus sideroxylon	Mugga Ironbark																							20	1	10	1						
Euchiton involucratus	Star Cudweed																																
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed																					0.1	1										
Euphorbia dentata	-																																
Euphorbia heterophylla	-																																
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass																																
Galium gaudichaudii	Rough Bedstraw																																
Galium propinquum	Maori Bedstraw																																
Geranium homeanum	-																																
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Geranium retrorsum	Cranesbill Geranium																																
Geranium solanderi	Native Geranium															0.1	1																
Geranium solanderi var. *solanderi*	-																																
Geranium sp. *2*	-																																
Glycine clandestina	Twining glycine															0.1	1																
Glycine tabacina	Variable Glycine																																
Gonocarpus elatus	A Raspwort													0.1	1																		
Gonocarpus tetragynus	Poverty Raspwort																	0.1	1					0.1	1	0.1	1						
Goodenia hederacea	Ivy Goodenia																							0.1	1								
Haloragis heterophylla	Variable Raspwort																																
Hardenbergia violacea	False Sarsaparilla																																
Heliotropium europaeum	Potato Weed	0.1	1																											0.1	1		
Hibbertia obtusifolia	Hoary Guinea Flower															1	1							0.1	1	0.1	1						
Holcus lanatus	Yorkshire Fog							0.2	1																								
Hordeum leporinum	Barley Grass					0.2	1			5	1	0.5	1	0.1	1	15	1											0.1	1			0.1	1
Hordeum murinum	Barley-grass																																
Hydrocotyle laxiflora	Stinking Pennywort									0.5	1																						

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hypericum gramineum	Small St John's Wort																	0.1	1			0.5	1			0.2	1			0.2	1		
Hypericum perforatum	St. Johns Wort			0.2	1																									0.5	1	0.1	1
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear	0.1	1	0.2	1	1	1	2	1	1	1	0.1	1			0.1	1	1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	1	1	0.1	1
Indigofera australis	Australian Indigo																																
Isotoma axillaris	Showy Isotome																																
Juncus australis	Rush																																
Juncus filicaulis	-																																
Juncus holoschoenus	-																																
Juncus homalocaulis	-																																
Juncus sp.	A Rush																	0.5	1									0.1	1	0.1	1		
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-																																
Lactuca saligna	Willow-leaved Lettuce																													0.2	1		
Lactuca serriola	Prickly Lettuce	0.1	1													0.1	1																
Lepidosperma laterale	Variable Sword-sedge																																
Leucopogon ericoides	Pink Beard-heath																																
Lissanthe strigosa	Peach Heath																							0.2	1								

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lolium loliaceum	Stiff Ryegrass			2	1																												
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass					80	1	20	1	5	1	0.5	1									25	1					0.1	1	1	1	0.1	1
Lolium rigidum	Wimmera Ryegrass																																
Lomandra bracteata	Mat-rush																																
Lomandra filiformis	Wattle Matt-rush																																
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush															0.1	1	0.5	1														
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush																																
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																																
Lomandra sp.	Mat-rush																															0.5	1
Ludwigia peploides subsp. *montevidensis*	Water Primrose																																
Lysimachia arvensis	Scarlet Pimpernel																																
Lythrum hyssopifolia	Hyssop Loosestrife																					0.2	1							0.5	1		
Malva neglecta	Dwarf Mallow																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Malva parviflora	Small-flowered Mallow													0.1	1																		
Marrubium vulgare	White Horehound									1	1																						
Melichrus urceolatus	Urn Heath																																
Microlaena stipoides	Weeping Grass			5	1			5	1							0.1	1							1	1							30	1
Microlaena stipoides var. *stipoides*	Weeping Grass																																
Microtis sp.	-																																
Modiola caroliniana	Red-flowered Mallow											0.1	1															0.1	1				
Monotoca scoparia	-																																
Nassella neesiana	Chilean Needle Grass																																
Onopordum acanthium	Scotch Thistle																																
Opercularia varia	Variable Stinkweed																																
Orobanche minor	Broomrape																																
Oxalis exilis	-	0.1	1																														
Oxalis perennans	-			0.1	1											0.1	1	0.1	1			0.1	1	0.1	1	0.1	1			0.1	1	0.1	1
Oxalis pes-caprae	Soursob																																
Oxalis sp.	-																																
Oxalis thompsoniae	-																																
Panicum capillare	Witchgrass																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Panicum coloratum	Coolah Grass																																
Panicum decompositum	Native Millet															0.5	1					0.5	1										
Panicum effusum	Hairy Panic	0.1	1																									0.5	1				
Panicum queenslandicum	Yadbila Grass													0.5	1			30	1	0.5	1												
Panicum simile	Two-colour Panic																							0.5	1	1	1						
Panicum sp.	Panicum											1	1																				
Paspalidium aversum	Bent Summer Grass																																
Paspalidium constrictum	Knottybutt Grass																																
Paspalidium distans	-																											1	1				
Paspalidium gracile	Slender Panic																																
Paspalidium jubiflorum	Warrego Grass													0.5	1	0.1	1	1	1	0.1	1	0.5	1										
Paspalidium sp.	-																																
Paspalum dilatatum	Paspalum					1	1	0.5	1	1	1							1	1									1	1				
Paspalum distichum	Water Couch																																
Pellaea sp.	-																																
Persicaria decipiens	Slender Knotweed																																
Persicaria lapathifolia	Pale Knotweed																																
Persicaria prostrata	Creeping Knotweed																	0.1	1														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Persicaria subsessilis	Hairy Knotweed																																
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink	0.1	1	0.2	1																												
Phalaris aquatica	Phalaris																															0.5	1
Phragmites australis	Common Reed																																
Plantago lanceolata	Lamb's Tongues					0.5	1																										
Plantago major	Large Plantain																																
Plantago varia	-																																
Platylobium formosum	-																																
Poa annua	Winter Grass																																
Poa labillardierei var. *labillardierei*	Tussock																																
Poa pratensis	Kentucky Bluegrass																																
Poa sieberiana	Snowgrass																																
Poa sieberiana var. *sieberiana*	Snowgrass																																
Poaceae indeterminate	Grasses, reeds and bamboos																																
Polygonum aviculare	Wireweed											0.1	1	0.1	1							0.1	1	0.1	1					0.1	1	0.1	1
Polygonum sp.	-																																
Populus alba	White Poplar																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Poranthera microphylla	Small Poranthera																											0.1	1				
Portulaca oleracea	Pigweed																			0.1	1									0.1	1		
Potentilla recta	-																																
Proboscidea louisianica	Purple-flowered Devil's Claw																																
Pseudognaphalium luteoalbum	Jersey Cudweed																					0.1	1							0.2	1		
Pteridium esculentum	Bracken																																
Ptilotus semilanatus	Lambs tails	0.1	1																														
Ptilotus spathulatus f. spathulatus	Pussy-tails																																
Pultenaea spinosa	A Bush Pea																																
Ricinocarpos bowmanii	-	25	1	10	1																												
Romulea rosea	Onion Weed													0.1	1			0.1	1					0.1	1	0.1	1						
Rosa rubiginosa	Sweet Briar																																
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex																																
Rubus moorei	Silky Bramble																																
Rubus parvifolius	Native Raspberry																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rumex acetosella	Sheep Sorrel	0.1	1	0.1	1			0.5	1	2	1	0.1	1	0.1	1	0.2	1	1	1	0.1	1	0.2	1	0.1	1	0.2	1	0.1	1	0.5	1		
Rumex brownii	Swamp Dock					0.3	1	0.3	1	0.5	1					0.1	1	0.1	1					0.1	1					0.1	1	0.1	1
Rumex crispus	Curled Dock					0.1	1																										
Rumex dumosus	Wiry Dock																																
Rytidosperma auriculatum	Lobed Wallaby Grass																																
Rytidosperma caespitosum	Ringed Wallaby Grass			0.1	1																												
Rytidosperma carphoides	Short Wallaby Grass			5	1																												
Rytidosperma oreophilum	-																																
Rytidosperma racemosum	Wallaby Grass															1	1							0.5	1							0.5	1
Rytidosperma setaceum	Small-flowered Wallaby-grass																			0.5	1			1	1	0.5	1						
Rytidosperma sp.	-							20	1					1.1	2	0.1	1	1.5	2	0.2	1					5	1					0.1	1
Salvia verbenaca	Vervain																																
Schoenoplectus pungens	-																																
Schoenus apogon	Fluke Bogrush																																
Scleranthus biflorus	Two-flowered Knawel																																
Scutellaria humilis	Dwarf Skullcap																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Senecio bathurstianus	-																																
Senecio madagascariensis	Fireweed																																
Senecio quadridentatus	Cotton Fireweed																																
Senecio sp.	Groundsel, Fireweed	0.1	1																														
Setaria gracilis	-									1	1																						
Setaria parviflora	-													0.1	1			0.1	1														
Setaria sp.	-																					0.5	1										
Setaria verticillata	Whorled Pigeon Grass																																
Silybum marianum	Variegated Thistle																																
Sisymbrium erysimoides	Smooth Mustard																																
Sisymbrium officinale	Hedge Mustard																																
Solanum cinereum	Narrawa Burr																																
Solanum nigrum	Black-berry Nightshade	0.1	1							1	1					0.1	1									0.1	1	0.5	1			0.1	1
Sonchus asper	Prickly Sowthistle															0.1	1																
Sonchus oleraceus	Common Sowthistle													0.1	1									0.1	1			0.1	1	0.5	1	0.1	1
Sorghum sp.	-																																
Sporobolus creber	Slender Rat's Tail Grass																																
Sporobolus sp.	Rat's Tail Couch																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Spyridium parvifolium	Dusty Miller																																
Stellaria media	Common Chickweed																																
Stypandra glauca	Nodding Blue Lily															0.5	1																
Taraxacum officinale	Dandelion					0.1	1																										
Themeda triandra	Kangaroo Grass																																
Tolpis barbata	Yellow Hawkweed																			0.1	1												
Tricoryne elatior	Yellow Autumn-lily																							0.1	1							0.1	1
Trifolium angustifolium	Narrow-leaved Clover					0.1	1	0.1	1																	0.1	1						
Trifolium arvense	Haresfoot Clover			0.1	1													0.1	1														
Trifolium campestre	Hop Clover					2	1	0.5	1																								
Trifolium dubium	Yellow Suckling Clover																																
Trifolium fragiferum	Strawberry Clover																																
Trifolium glomeratum	Clustered Clover																																
Trifolium incarnatum	Crimson Clover																																
Trifolium repens	White Clover											0.5	1									1	1							1	1	0.5	1
Trifolium subterraneum	Subterranean Clover			0.2	1			1	1																								
Urtica incisa	Stinging Nettle																																

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM0458 5C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Urtica urens	Small Nettle					1	1	1	1	1	1																	0.1	1				
Verbascum thapsus	Aarons Rod																																
Verbascum virgatum	Twiggy Mullein																																
Verbena bonariensis	Purpletop																																
Verbena rigida	Veined Verbena																																
Veronica anagallis-aquatica	Blue Water-speedwell																																
Vicia sativa	Common vetch																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																																
Vittadinia muelleri	A Fuzzweed																																
Vulpia muralis	Wall Fescue																																
Vulpia myuros	Rat's Tail Fescue													1	1	0.1	1	1	1	0.5	1			0.1	1								
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																																
Wahlenbergia luteola	Bluebell	0.1	1	0.5	1																												
Wahlenbergia multicaulis	Tadgell's Bluebell																																
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell																																

Scientific Name	Common Name	MA-089B		MA-089C		MA096311		MA098647		MA098668		WM011512		WM0138DE		WM0139C1		WM013E61		WM016B40		WM018001		WM018002		WM018003		WM037-01		WM0458 5C		WM045964	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Xanthium italicum	Hunter Burr																																
Xanthium occidentale	Noogoora Burr					0.3	1	1	1	1	1	0.1	1																				
Xanthium orientale	California n Burr																																
Xanthium spinosum	Bathurst Burr																											0.2	1				
Xanthium strumarium	-																																
Xanthorrhoea glauca	-																																
Xanthorrhoea glauca subsp. *angustifolia*	-	5	1																														
Xanthosia atkinsoniana	-																																
Xanthosia dissecta	Cut-leaved Xanthosia																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 18: Inland Slopes BAM floristic data

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM0517 9B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Abelia chinensis	-																																
Acacia buxifolia	Box-leaved Wattle																																
Acacia falciformis	Broad-leaved Hickory																																

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM0517 9B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia genistifolia	Early Wattle																																
Acacia implexa	Hickory Wattle																									0.1	1						
Acacia melanoxylon	Blackwood																																
Acacia paradoxa	Kangaroo Thorn							1	1	0.5	1																						
Acacia rubida	Red-stemmed Wattle																																
Acaena novae-zelandiae	Bidgee-widgee																																
Acaena ovina	Acaena																																
Acrotriche serrulata	Honeypots																																
Adiantum aethiopicum	Common Maidenhair																																
Agrostis sp.	Bent Grass																																
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass																																
Allocasuarina verticillata	Drooping Sheoak																																
Alternanthera denticulata	Lesser Joyweed																																
Alternanthera nana	Hairy Joyweed																																
Amaranthus retroflexus	Redroot Amaranth																																
Amaranthus sp.	Amaranth																																

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Amyema cambagei	Needle-leaf Mistletoe																																
Amyema sp.	Mistletoe																																
Arctotheca calendula	Capeweed																																
Aristida behriana	Bunch Wiregrass																																
Aristida ramosa	Purple Wiregrass							1	1	0.2	1	0.2	1											10	1	2	1						
Arthropodium milleflorum	Pale Vanilla-lily	0.1	1																														
Arthropodium sp.	-									0.2	1																						
Austrostipa aristiglumis	Plains Grass																																
Austrostipa bigeniculata	Yanganbil							5	1	20	1	5	1	1	1									3	1								
Austrostipa densiflora	Foxtail Speargrass																											0.1	1				
Austrostipa ramosissima	Stout Bamboo Grass																																
Austrostipa scabra	Speargrass	5	1											0.5	1					20	1	5	1	3	1	3	1	5	1				
Austrostipa scabra subsp. *falcata*	Rough Speargrass							1	1	2	1	2	1																				
Austrostipa sp.	A Speargrass																																
Avena barbata	Bearded Oats	0.1	1																														
Avena fatua	Wild Oats			5	1							0.2	1																				
Avena sativa	Oats																																

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass	0.1	1									0.2	1	0.3	1					90	1	1	1	40	1							5	1
Brachychiton populneus	Kurrajong																									0.2	1						
Brachychiton populneus subsp. *populneus*	-																																
Brachyloma daphnoides	Daphne Heath							0.1	1																								
Brachypodium distachyon	False Brome																																
Briza maxima	Quaking Grass																									0.2	1						
Briza minor	Shivery Grass							0.5	1	1	1															0.2	1					0.2	1
Bromus cartharticus	Prairie Grass																																
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome	0.1	1																									0.1	1				
Bromus hordeaceus	Soft Brome																	1	1														
Bromus molliformis	Soft Brome	0.1	1																														
Bromus racemosus	Smooth Brome																													0.1	1		
Bromus rubens	Red Brome																																
Bursaria spinosa subsp. *lasiophylla*	Native Blackthorn																																

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Callitris glaucophylla	White Cypress Pine																																
Capsella bursa-pastoris	Shepherd's Purse																																
Carduus pycnocephalus	Slender Thistle																																
Carex appressa	Tall Sedge																																
Carex breviculmis	-																																
Carex inversa	Knob Sedge	0.1	1																														
Carthamus lanatus	Saffron Thistle	0.2	1																														
Cassinia aculeata	Dolly Bush																																
Cassinia laevis	Cough Bush																									0.1	1						
Cassinia longifolia	-																																
Cassytha glabella	-																																
Casuarina cunninghamiana subsp. *cunninghamiana*	River Oak																																
Cenchrus ciliaris	Buffel Grass											0.5	1													0.3	1						
Cenchrus clandestinus	Kikuyu													2	1																		
Cenchrus sp.	-													1	1																		
Centaurea solstitialis	St Barnabys Thistle																																

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Centaurium erythraea	Common Centaury																									0.2	1						
Chamaesyce dallachyana	-																																
Chamaesyce drummondii	Caustic Weed	0.1	1																														
Cheilanthes austrotenuifolia	Rock Fern									0.3	1															0.1	1						
Cheilanthes sieberi	Rock Fern							0.3	1			0.1	1																				
Chenopodium album	Fat Hen																																
Chenopodium murale	Nettle-leaf Goosefoot																																
Chloris truncata	Windmill Grass	0.1	1									0.2	1																				
Chondrilla juncea	Skeleton Weed	0.1	1	0.1	1																												
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle	0.1	1	0.1	1																									5	1		
Citrullus lanatus	-																																
Clematis aristata	Old Man's Beard																																
Clematis microphylla	Small-leaved Clematis																																
Convolvulus angustissimus	-	0.1	1																														
Convolvulus erubescens	Pink Bindweed																																

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Conyza bonariensis	Flaxleaf Fleabane																			0.2	1			0.2	1	2	1					0.1	1
Conyza sumatrensis	Tall fleabane																																
Correa reflexa	Native Fuschia																																
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard																																
Cucumis melo subsp. *melo*	-																																
Cucumis myriocarpus	Paddy Melon																																
Cynodon dactylon	Common Couch	0.1	1			5	1																										
Cynodon dactylon var. *dactylon*	Couch													80	1	20	1			5	1	10	1	10	1								
Cynoglossum suaveolens	Sweet Hound's-tongue									0.1	1													0.1	1								
Cynosurus echinatus	Rough Dog's Tail																																
Cyperus eragrostis	Umbrella Sedge													0.2	1																		
Cyperus sp.	-																																
Dactylis glomerata	Cocksfoot			1	1									0.2	1	1	1															5	1
Dactyloctenium aegyptium	Coast Button Grass																													0.1	1		
Desmodium varians	Slender Tick-trefoil	0.2	1									0.1	1																				

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dianella revoluta var. *revoluta*	A Blue Flax Lily																														
Dichelachne micrantha	Shorthair Plumegrass																														
Dichelachne sieberiana	-							0.3	1	0.3	1	0.5	1	0.1	1									0.3	1	0.1	1				
Dichondra repens	Kidney Weed	0.2	1									0.1	1													3	1				
Dichopogon fimbriatus	Nodding Chocolate Lily																														
Digitaria brownii	Cotton Panic Grass																														
Digitaria ciliaris	Summer Grass																														
Digitaria divaricatissima	Umbrella Grass																														
Digitaria ischaemum	-																														
Digitaria sanguinalis	Crab Grass					1	1									80	1														
Digitaria sp.	A Finger Grass																														
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas							0.3	1																						
Dipodium roseum	-																														
Dodonaea viscosa	Sticky Hop-bush																														
Dysphania pumilio	Small Crumbweed	0.1	1	0.1	1																							0.1	1		

Scientific Name	Common Name	WM045F7E		WM04650		WM04650B2		WM04718		WM04792A		WM047D5B		WM05179		WM05179B		WM052D04		WM05303E		WM05360		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dysphania sp.	-					3	1					0.1	1	1	1			0.2	1			0.5	1								
Echinochloa colona	Awnless Barnyard Grass					1	1																					0.1	1		
Echinochloa crus-galli	Barnyard Grass																														
Echinopogon caespitosus	Bushy Hedgehog-grass																														
Echinopogon intermedius	Erect Hedgehog Grass																														
Echinopogon ovatus	Forest Hedgehog Grass																														
Echium plantagineum	Patterson's Curse			0.2	1	0.1	1							0.2	1					0.2	1	2	1							0.2	1
Echium vulgare	Viper's Bugloss																														
Ehrharta erecta	Panic Veldtgrass			0.3	1																										
Einadia hastata	Berry Saltbush											0.5	1																		
Einadia nutans	Climbing Saltbush																														
Eleocharis pusilla	-																													0.5	1
Eleusine indica	Crowsfoot Grass															5	1														
Eleusine tristachya	Goose Grass	0.1	1																												
Elymus scaber	Common Wheatgrass							0.5	1	0.1	1	0.3	1	0.1	1																
Enneapogon nigricans	Niggerheads																														
Entolasia marginata	Bordered Panic													0.2	1																

Scientific Name	Common Name	WM045F7E		WM04650		WM0465B2		WM04718		WM0479 2A		WM047D5B		WM05179		WM05179B		WM052D04		WM05303E		WM05360 7		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG0016 93	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Epilobium billardierianum	-																													0.1	1		
Epilobium hirtigerum	-																																
Eragrostis alveiformis	-																																
Eragrostis brownii	Brown's Lovegrass																															0.5	1
Eragrostis cilianensis	Stinkgrass			0.5	1											2	1	0.1	1														
Eragrostis curvula	African Lovegrass																																
Eragrostis elongata	Clustered Lovegrass																																
Eragrostis leptostachya	Paddock Lovegrass																							1	1			0.1	1	1	1	10	1
Eragrostis minor	-					20	1					0.1	1	1	1					0.5	1	10	1	2	1								
Eragrostis parviflora	Weeping Lovegrass																																
Eragrostis sp.	A Lovegrass																					0.3	1										
Eragrostis trachycarpa	A Lovegrass																																
Erodium botrys	Long Storksbill																																
Erodium cicutarium	Common Crowfoot																																
Eucalyptus albens	White Box							5	1			3	1	20	1											20	1						
Eucalyptus blakelyi	Blakely's Red Gum							30	1	30	1	15	1													10	1						
Eucalyptus bridgesiana	Apple Box																																
Eucalyptus camphora subsp. *humeana*	-																																

Scientific Name	Common Name	WM045F7E		WM04650		WM0465B2		WM04718		WM0479 2A		WM047D5B		WM05179		WM05179B		WM052D04		WM05303E		WM05360 7		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG0016 93	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																																
Eucalyptus macrorhyncha	Red Stringybark	15	1					20	1			30	1	15	1													20	1				
Eucalyptus melliodora	Yellow Box									3	1																						
Eucalyptus nortonii	Large-flowered Bundy																																
Eucalyptus polyanthemos	Red Box																											10	1				
Eucalyptus polyanthemos subsp. *polyanthemos*	-			30	1									10	1																		
Eucalyptus rossii	Inland Scribbly Gum																																
Eucalyptus sideroxylon	Mugga Ironbark							5	1	20	1																						
Euchiton involucratus	Star Cudweed																																
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed																															0.5	1
Euphorbia dentata	-																							0.1	1								
Euphorbia heterophylla	-																																

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass																																
Galium gaudichaudii	Rough Bedstraw																																
Galium propinquum	Maori Bedstraw											0.1	1																				
Geranium homeanum	-																																
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																																
Geranium retrorsum	Cranesbill Geranium																																
Geranium solanderi	Native Geranium	0.1	1									0.1	1																				
Geranium solanderi var. *solanderi*	-																	0.1	1														
Geranium sp. 2	-																																
Glycine clandestina	Twining glycine	0.1	1									0.2	1													0.3	1						
Glycine tabacina	Variable Glycine																																
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort							0.3	1	1	1															0.2	1						
Goodenia hederacea	Ivy Goodenia									0.1	1																						
Haloragis heterophylla	Variable Raspwort																																

Scientific Name	Common Name	WM045F7E		WM04650		WM04650B2		WM04718		WM04792A		WM047D5B		WM05179		WM05179B		WM052D04		WM05303E		WM05360		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hardenbergia violacea	False Sarsaparilla																																
Heliotropium europaeum	Potato Weed																																
Hibbertia obtusifolia	Hoary Guinea Flower							0.1	1	0.1	1																						
Holcus lanatus	Yorkshire Fog																													75	1	1	1
Hordeum leporinum	Barley Grass			0.5	1									0.1	1			1	1									0.1	1				
Hordeum murinum	Barley-grass																																
Hydrocotyle laxiflora	Stinking Pennywort	0.1	1									0.1	1	0.2	1											0.2	1						
Hypericum gramineum	Small St John's Wort							0.2	1			0.2	1							0.2	1			0.2	1	0.1	1					5	1
Hypericum perforatum	St. Johns Wort			0.1	1							0.1	1							5	1	1	1	1	1	1	1			0.1	1	0.2	1
Hypochaeris glabra	Smooth Catsear	0.1	1																														
Hypochaeris radicata	Catsear	0.1	1	0.2	1	5	1					0.2	1	0.2	1	0.2	1			0.5	1	0.2	1					0.1	1	2	1	5	1
Indigofera australis	Australian Indigo									0.1	1																						
Isotoma axillaris	Showy Isotome																																
Juncus australis	Rush																																
Juncus filicaulis	-																																
Juncus holoschoenus	-																																
Juncus homalocaulis	-																																
Juncus sp.	A Rush	0.1	1																														

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Juncus subsecundus	Finger Rush																													0.5	1		
Juncus usitatus	-																															0.2	1
Lactuca saligna	Willow-leaved Lettuce																																
Lactuca serriola	Prickly Lettuce																																
Lepidosperma laterale	Variable Sword-sedge																																
Leucopogon ericoides	Pink Beard-heath																																
Lissanthe strigosa	Peach Heath																																
Lolium loliaceum	Stiff Ryegrass																																
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass	0.1	1	2	1													1	1														
Lolium rigidum	Wimmera Ryegrass																																
Lomandra bracteata	Mat-rush																											0.5	1				
Lomandra filiformis	Wattle Matt-rush																																
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush							0.1	1	0.3	1	0.1	1																				
Lomandra filiformis subsp. *filiformis*	-							3	1	3	1	1	1																				

Scientific Name	Common Name	WM045F7E		WM04650		WM0465B2		WM04718		WM0479 2A		WM047D5B		WM05199		WM0519B		WM052D04		WM0530 3E		WM0536 07		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG0016 93	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lomandra glauca	Pale Mat-rush																														
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush	0.1	1																												
Lomandra sp.	Mat-rush	0.2	1																												
Ludwigia peploides subsp. *montevidensis*	Water Primrose																														
Lysimachia arvensis	Scarlet Pimpernel																														
Lythrum hyssopifolia	Hyssop Loosestrife					0.2	1																								
Malva neglecta	Dwarf Mallow																														
Malva parviflora	Small-flowered Mallow	0.1	1	0.2	1																										
Marrubium vulgare	White Horehound																														
Melichrus urceolatus	Urn Heath							0.2	1	0.2	1															0.2	1				
Microlaena stipoides	Weeping Grass	10	1									0.1	1	2	1									20	1	10	1	0.5	1	10	1	5	1
Microlaena stipoides var. *stipoides*	Weeping Grass																														
Microtis sp.	-																														
Modiola caroliniana	Red-flowered Mallow																	0.5	1												
Monotoca scoparia	-																														

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Nassella neesiana	Chilean Needle Grass																																
Onopordum acanthium	Scotch Thistle																																
Opercularia varia	Variable Stinkweed							0.2	1																								
Orobanche minor	Broomrape																																
Oxalis exilis	-																																
Oxalis perennans	-	0.1	1									0.2	1																	0.1	1		
Oxalis pes-caprae	Soursob																																
Oxalis sp.	-																																
Oxalis thompsoniae	-																																
Panicum capillare	Witchgrass																																
Panicum coloratum	Coolah Grass																																
Panicum decompositum	Native Millet																											0.1	1				
Panicum effusum	Hairy Panic							0.1	1	0.1	1	0.5	1	0.3	1					2	1	1	1	0.5	1	0.5	1			0.2	1	1	1
Panicum queenslandicum	Yadbila Grass	0.1	1																														
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paspalidium aversum	Bent Summer Grass																																
Paspalidium constrictum	Knottybutt Grass																																

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM0517 9B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Paspalidium distans	-																																
Paspalidium gracile	Slender Panic			0.2	1			0.2	1			0.2	1	0.2	1			0.2	1														
Paspalidium jubiflorum	Warrego Grass																																
Paspalidium sp.	-																							0.2	1								
Paspalum dilatatum	Paspalum			0.2	1	0.2	1							3	1	1	1					5	1										
Paspalum distichum	Water Couch																																
Pellaea sp.	-																																
Persicaria decipiens	Slender Knotweed																																
Persicaria lapathifolia	Pale Knotweed																																
Persicaria prostrata	Creeping Knotweed																																
Persicaria subsessilis	Hairy Knotweed																																
Petrorhagia dubia	-																																
Petrorhagia nanteuilii	Proliferous Pink	0.1	1																														
Phalaris aquatica	Phalaris																																
Phragmites australis	Common Reed																																
Plantago lanceolata	Lamb's Tongues																																
Plantago major	Large Plantain																																
Plantago varia	-																																

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM0517 9B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Platylobium formosum	-																																
Poa annua	Winter Grass																																
Poa labillardierei var. *labillardierei*	Tussock																																
Poa pratensis	Kentucky Bluegrass																																
Poa sieberiana	Snowgrass									0.2	1																	0.1	1				
Poa sieberiana var. *sieberiana*	Snowgrass																																
Poaceae indeterminate	Grasses, reeds and bamboos	10	1																			5	1										
Polygonum aviculare	Wireweed					1	1													1	1												
Polygonum sp.	-																																
Populus alba	White Poplar																																
Poranthera microphylla	Small Poranthera																									0.2	1						
Portulaca oleracea	Pigweed																																
Potentilla recta	-																																
Proboscidea louisianica	Purple-flowered Devil's Claw																																
Pseudognaphalium luteoalbum	Jersey Cudweed																																

Scientific Name	Common Name	WM045F7E		WM04650		WM04650B2		WM04718		WM04792A		WM047D5B		WM05179		WM05179B		WM052D04		WM05303E		WM05360 7		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Pteridium esculentum	Bracken																																
Ptilotus semilanatus	Lambs tails																																
Ptilotus spathulatus f. spathulatus	Pussy-tails																																
Pultenaea spinosa	A Bush Pea																																
Ricinocarpos bowmanii	-																																
Romulea rosea	Onion Weed																																
Rosa rubiginosa	Sweet Briar																													0.2	1		
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex	1	1																							0.2	1						
Rubus moorei	Silky Bramble																																
Rubus parvifolius	Native Raspberry																																
Rumex acetosella	Sheep Sorrel	0.1	1			40	1							1	1	1	1			0.5	1	5	1	5	1					0.1	1	2	1
Rumex brownii	Swamp Dock	0.1	1									0.1	1	0.2	1													0.1	1	0.5	1		
Rumex crispus	Curled Dock																	0.2	1														
Rumex dumosus	Wiry Dock																																
Rytidosperma auriculatum	Lobed Wallaby Grass																													5	1	60	1

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma caespitosum	Ringed Wallaby Grass																																
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma oreophilum	-																																
Rytidosperma racemosum	Wallaby Grass	5	1																									1	1				
Rytidosperma setaceum	Small-flowered Wallaby-grass																																
Rytidosperma sp.	-							0.7	2	1	1	2.3	2	5.3	2							1	1	0.5	1	1	1						
Salvia verbenaca	Vervain																																
Schoenoplectus pungens	-																													0.5	1		
Schoenus apogon	Fluke Bogrush											3	1							0.3	1			0.3	1	0.3	1			0.2	1		
Scleranthus biflorus	Two-flowered Knawel																																
Scutellaria humilis	Dwarf Skullcap																																
Senecio bathurstianus	-																									0.1	1						
Senecio madagascariensis	Fireweed																																
Senecio quadridentatus	Cotton Fireweed																																
Senecio sp.	Groundsel, Fireweed																																

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Setaria gracilis	-																														
Setaria parviflora	-					0.3	1																								
Setaria sp.	-																														
Setaria verticillata	Whorled Pigeon Grass																														
Silybum marianum	Variegated Thistle																														
Sisymbrium erysimoides	Smooth Mustard			0.1	1																										
Sisymbrium officinale	Hedge Mustard																														
Solanum cinereum	Narrawa Burr																														
Solanum nigrum	Black-berry Nightshade	0.1	1	1	1																							0.1	1		
Sonchus asper	Prickly Sowthistle																														
Sonchus oleraceus	Common Sowthistle	0.1	1																									0.1	1		
Sorghum sp.	-															0.1	1	1	1	3	1										
Sporobolus creber	Slender Rat's Tail Grass			2	1					0.1	1			0.5	1															0.1	1
Sporobolus sp.	Rat's Tail Couch																							0.5	1						
Spyridium parvifolium	Dusty Miller																														
Stellaria media	Common Chickweed																														
Stypandra glauca	Nodding Blue Lily																									60	1				

Scientific Name	Common Name	WM045F7E		WM046550		WM046B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM0530 3E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Taraxacum officinale	Dandelion											0.1	1							0.1	1												
Themeda triandra	Kangaroo Grass							1	1	0.1	1																						
Tolpis barbata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																															0.5	1
Trifolium angustifolium	Narrow-leaved Clover	0.1	1																														
Trifolium arvense	Haresfoot Clover																																
Trifolium campestre	Hop Clover					1	1											80	1			1	1										
Trifolium dubium	Yellow Suckling Clover																																
Trifolium fragiferum	Strawberry Clover													0.2	1																		
Trifolium glomeratum	Clustered Clover																																
Trifolium incarnatum	Crimson Clover																																
Trifolium repens	White Clover	1	1																														
Trifolium subterraneum	Subterranean Clover			0.3	1	0.5	1											0.5	1			20	1	0.2	1								
Urtica incisa	Stinging Nettle																																
Urtica urens	Small Nettle																																
Verbascum thapsus	Aarons Rod																													0.1	1		
Verbascum virgatum	Twiggy Mullein																																

Scientific Name	Common Name	WM045F7E		WM046550		WM0465B2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Verbena bonariensis	Purpletop																														
Verbena rigida	Veined Verbena																														
Veronica anagallis-aquatica	Blue Water-speedwell																														
Vicia sativa	Common vetch																														
Viola betonicifolia	Native Violet																														
Vittadinia cuneata	A Fuzzweed																														
Vittadinia muelleri	A Fuzzweed																									1	1				
Vulpia muralis	Wall Fescue																														
Vulpia myuros	Rat's Tail Fescue	0.1	1																									0.1	1		
Wahlenbergia communis	Tufted Bluebell																														
Wahlenbergia gracilis	Sprawling Bluebell																													0.1	1
Wahlenbergia luteola	Bluebell																														
Wahlenbergia multicaulis	Tadgell's Bluebell																														
Wahlenbergia sp.	Bluebell																														
Wahlenbergia stricta	Tall Bluebell							0.3	1	1	1	0.2	1													0.3	1				
Xanthium italicum	Hunter Burr																														
Xanthium occidentale	Noogoora Burr	0.1	1																												
Xanthium orientale	California Burr																	0.2	1												

Scientific Name	Common Name	WM045F7E		WM046550		WM046AB2		WM047180		WM04792A		WM047D5B		WM051799		WM05179B		WM052D04		WM05303E		WM053607		WM053A1A		WM053FFF		WMO45E81		YG0011A7		YG001693	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Xanthium spinosum	Bathurst Burr																																
Xanthium strumarium	-																																
Xanthorrhoea glauca	-																																
Xanthorrhoea glauca subsp. *angustifolia*	-																																
Xanthosia atkinsoniana	-																																
Xanthosia dissecta	Cut-leaved Xanthosia																																
Xerochrysum viscosum	Sticky Everlasting									0.2	1													0.2	1	1	1						

Table A5- 19: Inland Slopes BAM floristic data

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Abelia chinensis	-																															0.3	1
Acacia buxifolia	Box-leaved Wattle																																
Acacia falciformis	Broad-leaved Hickory																																
Acacia genistifolia	Early Wattle																																
Acacia implexa	Hickory Wattle																																
Acacia melanoxylon	Blackwood																																
Acacia paradoxa	Kangaroo Thorn																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia rubida	Red-stemmed Wattle																													1	1		
Acaena novae-zelandiae	Bidgee-widgee																																
Acaena ovina	Acaena																													0.1	1		
Acrotriche serrulata	Honeypots																																
Adiantum aethiopicum	Common Maidenhair																																
Agrostis sp.	Bent Grass																																
Aira caryophyllea	Silvery Hairgrass																																
Aira cupaniana	Silvery Hairgrass																																
Allocasuarina verticillata	Drooping Sheoak																																
Alternanthera denticulata	Lesser Joyweed																							0.1	1								
Alternanthera nana	Hairy Joyweed																																
Amaranthus retroflexus	Redroot Amaranth																																
Amaranthus sp.	Amaranth																																
Amyema cambagei	Needle-leaf Mistletoe																															0.2	1
Amyema sp.	Mistletoe																																
Arctotheca calendula	Capeweed																							0.1	1	0.1	1						
Aristida behriana	Bunch Wiregrass																																
Aristida ramosa	Purple Wiregrass																											0.5	1				
Arthropodium milleflorum	Pale Vanilla-lily																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Arthropodium sp.	-																																
Austrostipa aristiglumis	Plains Grass			0.5	1					40	1																						
Austrostipa bigeniculata	Yanganbil																																
Austrostipa densiflora	Foxtail Speargrass																																
Austrostipa ramosissima	Stout Bamboo Grass																	2	1														
Austrostipa scabra	Speargrass																	1	1			1	1			0.2	1	10	1				
Austrostipa scabra subsp. *falcata*	Rough Speargrass																																
Austrostipa sp.	A Speargrass																																
Avena barbata	Bearded Oats																													0.1	1		
Avena fatua	Wild Oats																																
Avena sativa	Oats	0.5	1																	0.1	1												
Billardiera scandens	Hairy Apple Berry																																
Bothriochloa macra	Red Grass	0.1	1			1	1			0.2	1	0.5	1							1	1	5	1	1	1	1	1	1	1				
Brachychiton populneus	Kurrajong																			0.1	1			0.1	1								
Brachychiton populneus subsp. *populneus*	-																																
Brachyloma daphnoides	Daphne Heath																																
Brachypodium distachyon	False Brome																																
Briza maxima	Quaking Grass																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Briza minor	Shivery Grass					0.5	1																										
Bromus cartharticus	Prairie Grass													30	1																	15	1
Bromus catharticus	Praire Grass																																
Bromus diandrus	Great Brome																			0.1	1			0.1	1					0.1	1		
Bromus hordeaceus	Soft Brome											1	1							0.1	1	1	1	0.5	1	0.5	1	0.1	1				
Bromus molliformis	Soft Brome																																
Bromus racemosus	Smooth Brome									0.3	1																						
Bromus rubens	Red Brome																																
Bursaria spinosa subsp. *lasiophylla*	Native Blackthorn																																
Callitris glaucophylla	White Cypress Pine																																
Capsella bursa-pastoris	Shepherd's Purse													0.1	1	0.1	1																
Carduus pycnocephalus	Slender Thistle																							0.5	1								
Carex appressa	Tall Sedge							0.1	1																							0.5	1
Carex breviculmis	-																																
Carex inversa	Knob Sedge																			0.1	1	0.1	1							0.1	1	0.2	1
Carthamus lanatus	Saffron Thistle											10	1											0.1	1								
Cassinia aculeata	Dolly Bush																																
Cassinia laevis	Cough Bush																																
Cassinia longifolia	-																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cassytha glabella	-																																
Casuarina cunninghamiana subsp. *cunninghamiana*	River Oak																															30	1
Cenchrus ciliaris	Buffel Grass																																
Cenchrus clandestinus	Kikuyu																																
Cenchrus sp.	-																																
Centaurea solstitialis	St Barnabys Thistle																																
Centaurium erythraea	Common Centaury																																
Chamaesyce dallachyana	-																																
Chamaesyce drummondii	Caustic Weed																									0.1	1						
Cheilanthes austrotenuifolia	Rock Fern																																
Cheilanthes sieberi	Rock Fern																											0.1	1	0.1	1		
Chenopodium album	Fat Hen													0.5	1																		
Chenopodium murale	Nettle-leaf Goosefoot																																
Chloris truncata	Windmill Grass					0.1	1					2	1																				
Chondrilla juncea	Skeleton Weed											0.2	1									0.1	1									0.1	1
Cirsium arvense	Perennial Thistle																																
Cirsium vulgare	Spear Thistle	0.1	1	0.1	1			0.1	1					0.1	1	0.5	1	15	1	0.2	1	0.1	1	0.2	1					0.1	1		
Citrullus lanatus	-																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Clematis aristata	Old Man's Beard																																
Clematis microphylla	Small-leaved Clematis																																
Convolvulus angustissimus	-																																
Convolvulus erubescens	Pink Bindweed																																
Conyza bonariensis	Flaxleaf Fleabane													0.1	1			0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1				
Conyza sumatrensis	Tall fleabane																																
Correa reflexa	Native Fuschia																																
Crassula sieberiana	Australian Stonecrop																																
Crepis capillaris	Smooth Hawksbeard																																
Cucumis melo subsp. *melo*	-																																
Cucumis myriocarpus	Paddy Melon																			0.1	1												
Cynodon dactylon	Common Couch							1	1	0.2	1	0.5	1											10	1	0.5	1	0.1	1			3	1
Cynodon dactylon var. *dactylon*	Couch																																
Cynoglossum suaveolens	Sweet Hound's-tongue																																
Cynosurus echinatus	Rough Dog's Tail																			0.1	1			0.1	1					0.1	1		
Cyperus eragrostis	Umbrella Sedge																			0.1	1			0.1	1	0.2	1					0.5	1
Cyperus sp.	-																																
Dactylis glomerata	Cocksfoot					40	1																									1	1

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dactyloctenium aegyptium	Coast Button Grass			1	1	2	1	1	1			0.2	1																				
Desmodium varians	Slender Tick-trefoil																	0.2	1														
Dianella revoluta var. *revoluta*	A Blue Flax Lily																																
Dichelachne micrantha	Shorthair Plumegrass																																
Dichelachne sieberiana	-																																
Dichondra repens	Kidney Weed							0.1	1											0.1	1			0.1	1					0.2	1	0.2	1
Dichopogon fimbriatus	Nodding Chocolate Lily																																
Digitaria brownii	Cotton Panic Grass																					1	1			1	1						
Digitaria ciliaris	Summer Grass															1	1																
Digitaria divaricatissima	Umbrella Grass																									0.5	1						
Digitaria ischaemum	-																			1	1							0.5	1				
Digitaria sanguinalis	Crab Grass											0.1	1											0.2	1	1	1			0.3	1		
Digitaria sp.	A Finger Grass																																
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																																
Dipodium roseum	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dodonaea viscosa	Sticky Hop-bush																														
Dysphania pumilio	Small Crumbweed													2	1	0.2	1	0.1	1												
Dysphania sp.	-																			0.1	1			0.1	1	0.1	1	0.1	1	0.1	1		
Echinochloa colona	Awnless Barnyard Grass																														
Echinochloa crus-galli	Barnyard Grass																														
Echinopogon caespitosus	Bushy Hedgehog-grass																														
Echinopogon intermedius	Erect Hedgehog Grass																														
Echinopogon ovatus	Forest Hedgehog Grass																														
Echium plantagineum	Patterson's Curse											2	1							0.1	1	0.5	1	0.1	1	0.1	1	0.1	1	0.5	1		
Echium vulgare	Viper's Bugloss									0.1	1																				
Ehrharta erecta	Panic Veldtgrass			5	1	2	1	10	1	20	1	2	1																		
Einadia hastata	Berry Saltbush																														
Einadia nutans	Climbing Saltbush																	0.2	1											0.2	1
Eleocharis pusilla	-																														
Eleusine indica	Crowsfoot Grass																														
Eleusine tristachya	Goose Grass																														
Elymus scaber	Common Wheatgrass	0.2	1	0.5	1															0.5	1	0.5	1			0.5	1	0.5	1				

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Enneapogon nigricans	Niggerheads																																
Entolasia marginata	Bordered Panic																																
Epilobium billardierianum	-																																
Epilobium hirtigerum	-																																
Eragrostis alveiformis	-																																
Eragrostis brownii	Brown's Lovegrass	0.5	1	1	1	5	1					0.1	1																				
Eragrostis cilianensis	Stinkgrass													5	1	0.1	1																
Eragrostis curvula	African Lovegrass			15	1	0.5	1																										
Eragrostis elongata	Clustered Lovegrass																									0.1	1	0.2	1				
Eragrostis leptostachya	Paddock Lovegrass			2	1	20	1													1	1	1	1	1	1	10	1	1	1	0.5	1		
Eragrostis minor	-																																
Eragrostis parviflora	Weeping Lovegrass																																
Eragrostis sp.	A Lovegrass																																
Eragrostis trachycarpa	A Lovegrass																					0.1	1			0.1	1						
Erodium botrys	Long Storksbill																			0.1	1	0.1	1										
Erodium cicutarium	Common Crowfoot																																
Eucalyptus albens	White Box																	70	1											1	1		
Eucalyptus blakelyi	Blakely's Red Gum							2	1					15	1	1	1			12	1			20	1								
Eucalyptus bridgesiana	Apple Box																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus camphora subsp. *humeana*	-																																
Eucalyptus dives	Broad-leaved Peppermint																																
Eucalyptus goniocalyx	Bundy																													10	1		
Eucalyptus macrorhyncha	Red Stringybark																																
Eucalyptus melliodora	Yellow Box																							1	1					2	1		
Eucalyptus nortonii	Large-flowered Bundy																																
Eucalyptus polyanthemos	Red Box																																
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																
Eucalyptus rossii	Inland Scribbly Gum																																
Eucalyptus sideroxylon	Mugga Ironbark																																
Euchiton involucratus	Star Cudweed			0.1	1																												
Euchiton japonicus	-																																
Euchiton sphaericus	Star Cudweed																									0.1	1	0.1	1				
Euphorbia dentata	-																																
Euphorbia heterophylla	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Exocarpos cupressiformis	Cherry Ballart																																
Gahnia sp.	-																																
Galium aparine	Goosegrass																															0.1	1
Galium gaudichaudii	Rough Bedstraw																																
Galium propinquum	Maori Bedstraw																																
Geranium homeanum	-																																
Geranium molle	Cranesbill Geranium																																
Geranium potentilloides	-																			0.1	1									0.1	1		
Geranium retrorsum	Cranesbill Geranium																																
Geranium solanderi	Native Geranium																							0.1	1								
Geranium solanderi var. *solanderi*	-																																
Geranium sp. *2*	-																																
Glycine clandestina	Twining glycine																																
Glycine tabacina	Variable Glycine																							0.1	1								
Gonocarpus elatus	A Raspwort																																
Gonocarpus tetragynus	Poverty Raspwort																																
Goodenia hederacea	Ivy Goodenia																																
Haloragis heterophylla	Variable Raspwort							0.2	1																								
Hardenbergia violacea	False Sarsaparilla																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Heliotropium europaeum	Potato Weed																																
Hibbertia obtusifolia	Hoary Guinea Flower																																
Holcus lanatus	Yorkshire Fog	85	1	40	1	20	1	80	1	5	1	10	1	5	1	90	1	0.2	1	0.1	1	1	1	0.1	1	0.2	1			0.1	1		
Hordeum leporinum	Barley Grass																			0.1	1									0.1	1		
Hordeum murinum	Barley-grass													0.1	1																		
Hydrocotyle laxiflora	Stinking Pennywort																																
Hypericum gramineum	Small St John's Wort			5	1	0.1	1	0.2	1											0.1	1					0.1	1	0.1	1				
Hypericum perforatum	St. Johns Wort	1	1	0.1	1															0.5	1	1	1	0.1	1	0.1	1	0.1	1	0.5	1		
Hypochaeris glabra	Smooth Catsear																																
Hypochaeris radicata	Catsear			5	1	5	1	1	1	2	1	3	1					0.5	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.2	1
Indigofera australis	Australian Indigo																																
Isotoma axillaris	Showy Isotome																																
Juncus australis	Rush																																
Juncus filicaulis	-																																
Juncus holoschoenus	-																																
Juncus homalocaulis	-																																
Juncus sp.	A Rush																															0.2	1
Juncus subsecundus	Finger Rush																																
Juncus usitatus	-			0.1	1									0.2	1																		

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lactuca saligna	Willow-leaved Lettuce																																
Lactuca serriola	Prickly Lettuce																	0.1	1	0.1	1			0.1	1					0.1	1		
Lepidosperma laterale	Variable Sword-sedge																																
Leucopogon ericoides	Pink Beard-heath																																
Lissanthe strigosa	Peach Heath																																
Lolium loliaceum	Stiff Ryegrass																																
Lolium multiflorum	Italian Ryegrass																																
Lolium perenne	Perennial Ryegrass																			0.1	1			0.1	1								
Lolium rigidum	Wimmera Ryegrass															0.2	1																
Lomandra bracteata	Mat-rush																																
Lomandra filiformis	Wattle Matt-rush					0.1	1																										
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																					0.1	1			0.1	1						
Lomandra filiformis subsp. *filiformis*	-																																
Lomandra glauca	Pale Mat-rush																																
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																																
Lomandra sp.	Mat-rush																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Ludwigia peploides subsp. *montevidensis*	Water Primrose																														
Lysimachia arvensis	Scarlet Pimpernel																	0.1	1											0.2	1
Lythrum hyssopifolia	Hyssop Loosestrife			0.2	1	1	1	0.3	1	0.2	1			0.5	1			0.1	1	0.1	1					0.1	1			0.1	1		
Malva neglecta	Dwarf Mallow											0.1	1																		
Malva parviflora	Small-flowered Mallow													0.5	1	0.1	1														
Marrubium vulgare	White Horehound																														
Melichrus urceolatus	Urn Heath																														
Microlaena stipoides	Weeping Grass	2	1			0.5	1			10	1	30	1					70	1											10	1
Microlaena stipoides var. *stipoides*	Weeping Grass																			30	1	60	1	25	1	70	1	5	1	7	1		
Microtis sp.	-																														
Modiola caroliniana	Red-flowered Mallow											0.5	1			0.1	1			0.2	1	0.1	1	0.5	1			0.1	1	0.1	1	0.2	1
Monotoca scoparia	-																														
Nassella neesiana	Chilean Needle Grass											0.1	1																		
Onopordum acanthium	Scotch Thistle											0.1	1											0.1	1						
Opercularia varia	Variable Stinkweed																														
Orobanche minor	Broomrape																													0.1	1		
Oxalis exilis	-																														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Oxalis perennans	-					0.1	1	0.1	1			0.1	1			0.1	1			0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.2	1	0.1	1
Oxalis pes-caprae	Soursob																																
Oxalis sp.	-																																
Oxalis thompsoniae	-																																
Panicum capillare	Witchgrass													2	1	0.2	1	0.1	1	0.1	1												
Panicum coloratum	Coolah Grass											0.1	1																				
Panicum decompositum	Native Millet																																
Panicum effusum	Hairy Panic			0.5	1	5	1	1	1			2	1									0.5	1	1	1	1	1	0.5	1				
Panicum queenslandicum	Yadbila Grass																																
Panicum simile	Two-colour Panic																																
Panicum sp.	Panicum																																
Paspalidium aversum	Bent Summer Grass																			0.1	1												
Paspalidium constrictum	Knottybutt Grass																																
Paspalidium distans	-																																
Paspalidium gracile	Slender Panic																																
Paspalidium jubiflorum	Warrego Grass																																
Paspalidium sp.	-																																
Paspalum dilatatum	Paspalum											2	1							0.5	1			0.5	1	0.1	1	0.1	1			5	1
Paspalum distichum	Water Couch																							0.5	1								
Pellaea sp.	-																																

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Persicaria decipiens	Slender Knotweed																													2	1
Persicaria lapathifolia	Pale Knotweed																														
Persicaria prostrata	Creeping Knotweed																														
Persicaria subsessilis	Hairy Knotweed																														
Petrorhagia dubia	-																														
Petrorhagia nanteuilii	Proliferous Pink																	0.1	1									0.1	1				
Phalaris aquatica	Phalaris	0.1	1	0.1	1							1	1			2	1													2	1
Phragmites australis	Common Reed																														
Plantago lanceolata	Lamb's Tongues																														
Plantago major	Large Plantain											0.2	1																		
Plantago varia	-																														
Platylobium formosum	-																														
Poa annua	Winter Grass																														
Poa labillardierei var. *labillardierei*	Tussock																														
Poa pratensis	Kentucky Bluegrass													40	1																
Poa sieberiana	Snowgrass																														
Poa sieberiana var. *sieberiana*	Snowgrass																														
Poaceae indeterminate	Grasses, reeds and bamboos																														

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		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Polygonum aviculare	Wireweed													0.5	1																		
Polygonum sp.	-																							0.1	1			0.1	1	0.2	1		
Populus alba	White Poplar																															0.2	1
Poranthera microphylla	Small Poranthera																																
Portulaca oleracea	Pigweed													0.1	1																		
Potentilla recta	-																																
Proboscidea louisianica	Purple-flowered Devil's Claw																																
Pseudognaphalium luteoalbum	Jersey Cudweed																							0.1	1								
Pteridium esculentum	Bracken																																
Ptilotus semilanatus	Lambs tails																																
Ptilotus spathulatus f. spathulatus	Pussy-tails																																
Pultenaea spinosa	A Bush Pea																																
Ricinocarpos bowmanii	-																																
Romulea rosea	Onion Weed																			0.1	1												
Rosa rubiginosa	Sweet Briar	0.1	1																	0.1	1			0.1	1					0.1	1		
Rubus anglocandicans	Blackberry																																
Rubus fruticosus sp. *agg.*	Blackberry complex	10	1									0.2	1			0.1	1			2	1			1	1					1	1	20	1
Rubus moorei	Silky Bramble																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rubus parvifolius	Native Raspberry																														
Rumex acetosella	Sheep Sorrel			0.5	1	0.1	1			10	1									0.1	1	0.2	1			0.1	1	0.1	1				
Rumex brownii	Swamp Dock	0.2	1	0.1	1	0.1	1	0.5	1	0.1	1	0.2	1	0.2	1					0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	1	1
Rumex crispus	Curled Dock											0.1	1			0.1	1							0.1	1								
Rumex dumosus	Wiry Dock																																
Rytidosperma auriculatum	Lobed Wallaby Grass	1	1							10	1																						
Rytidosperma caespitosum	Ringed Wallaby Grass											10	1					0.5	1														
Rytidosperma carphoides	Short Wallaby Grass																																
Rytidosperma oreophilum	-																																
Rytidosperma racemosum	Wallaby Grass																	0.2	1														
Rytidosperma setaceum	Small-flowered Wallaby-grass																																
Rytidosperma sp.	-			20	1	10	1			1	1	30	1							25.1	2	5	1	5.5	2	10.1	2	2	3	20	1	1	1
Salvia verbenaca	Vervain																																
Schoenoplectus pungens	-																																
Schoenus apogon	Fluke Bogrush			0.1	1	0.5	1																										
Scleranthus biflorus	Two-flowered Knawel																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Scutellaria humilis	Dwarf Skullcap																																
Senecio bathurstianus	-																																
Senecio madagascariensis	Fireweed																																
Senecio quadridentatus	Cotton Fireweed																																
Senecio sp.	Groundsel, Fireweed																																
Setaria gracilis	-																															0.3	1
Setaria parviflora	-	0.5	1	2	1	10	1	2	1	0.1	1																						
Setaria sp.	-																																
Setaria verticillata	Whorled Pigeon Grass																			1	1	1	1			1	1	0.5	1				
Silybum marianum	Variegated Thistle															0.1	1			0.1	1												
Sisymbrium erysimoides	Smooth Mustard																																
Sisymbrium officinale	Hedge Mustard																																
Solanum cinereum	Narrawa Burr																																
Solanum nigrum	Black-berry Nightshade													0.2	1			0.1	1	0.1	1			0.1	1					0.1	1		
Sonchus asper	Prickly Sowthistle													0.5	1	0.1	1	0.2	1					0.1	1								
Sonchus oleraceus	Common Sowthistle							0.1	1			0.1	1			0.1	1			0.1	1									0.1	1		
Sorghum sp.	-																																
Sporobolus creber	Slender Rat's Tail Grass																																
Sporobolus sp.	Rat's Tail Couch																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Spyridium parvifolium	Dusty Miller																																
Stellaria media	Common Chickweed																																
Stypandra glauca	Nodding Blue Lily																																
Taraxacum officinale	Dandelion																																
Themeda triandra	Kangaroo Grass																			0.5	1			0.5	1	1	1	15	1				
Tolpis barbata	Yellow Hawkweed																																
Tricoryne elatior	Yellow Autumn-lily																											0.1	1				
Trifolium angustifolium	Narrow-leaved Clover																	0.2	1					0.1	1			0.1	1	0.1	1		
Trifolium arvense	Haresfoot Clover																													0.1	1		
Trifolium campestre	Hop Clover															0.1	1																
Trifolium dubium	Yellow Suckling Clover																			0.1	1												
Trifolium fragiferum	Strawberry Clover																																
Trifolium glomeratum	Clustered Clover													0.1	1					0.1	1			0.1	1								
Trifolium incarnatum	Crimson Clover																																
Trifolium repens	White Clover																							0.5	1								
Trifolium subterraneum	Subterranean Clover					1	1	0.1	1	0.2	1	0.5	1	0.2	1			0.2	1	0.1	1	0.1	1	0.2	1	0.5	1						
Urtica incisa	Stinging Nettle																																
Urtica urens	Small Nettle																															0.2	1

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Verbascum thapsus	Aarons Rod																							0.1	1					0.1	1		
Verbascum virgatum	Twiggy Mullein																																
Verbena bonariensis	Purpletop																															0.1	1
Verbena rigida	Veined Verbena																																
Veronica anagallis-aquatica	Blue Water-speedwell																															0.5	1
Vicia sativa	Common vetch																																
Viola betonicifolia	Native Violet																																
Vittadinia cuneata	A Fuzzweed																																
Vittadinia muelleri	A Fuzzweed																																
Vulpia muralis	Wall Fescue																					0.2	1										
Vulpia myuros	Rat's Tail Fescue																											0.1	1	0.1	1		
Wahlenbergia communis	Tufted Bluebell																																
Wahlenbergia gracilis	Sprawling Bluebell																																
Wahlenbergia luteola	Bluebell																	0.1	1														
Wahlenbergia multicaulis	Tadgell's Bluebell																																
Wahlenbergia sp.	Bluebell																																
Wahlenbergia stricta	Tall Bluebell																																
Xanthium italicum	Hunter Burr																																

Scientific Name	Common Name	YG001AA0		YG001B70		YG001D0C		YG001DF2		YG001E6E		YG002F69		YG0056F6		YG005A75		YG007C9C		YG030560		YG030881		YG0309D5		YG030B22		YG030ED6		YG030MP2		YG032D35	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Xanthium occidentale	Noogoora Burr																																
Xanthium orientale	Californian Burr																																
Xanthium spinosum	Bathurst Burr																																
Xanthium strumarium	-																																
Xanthorrhoea glauca	-																																
Xanthorrhoea glauca subsp. *angustifolia*	-																																
Xanthosia atkinsoniana	-																																
Xanthosia dissecta	Cut-leaved Xanthosia																																
Xerochrysum viscosum	Sticky Everlasting																																

Table A5- 20: Inland Slopes BAM floristic data

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Abelia chinensis	-																																				
Acacia buxifolia	Box-leaved Wattle																																				
Acacia falciformis	Broad-leaved Hickory																																				
Acacia genistifolia	Early Wattle																																				
Acacia implexa	Hickory Wattle																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia melanoxylon	Blackwood																																				
Acacia paradoxa	Kangaroo Thorn																																				
Acacia rubida	Red-stemmed Wattle																																				
Acaena novae-zelandiae	Bidgee-widgee																																				
Acaena ovina	Acaena																													0.1	3					0.1	1
Acetosella vulgaris	Sheep Sorrel																															0.3	100	0.5	10		
Acrotriche serrulata	Honeypots																																				
Adiantum aethiopicum	Common Maidenhair																																				
Agrostis sp.	Bent Grass																																				
Aira caryophyllea	Silvery Hairgrass																																				
Aira cupaniana	Silvery Hairgrass																																				
Allocasuarina verticillata	Drooping Sheoak																																				
Alternanthera denticulata	Lesser Joyweed							0.3	1																												
Alternanthera nana	Hairy Joyweed																																				
Amaranthus retroflexus	Redroot Amaranth																																				
Amaranthus sp.	Amaranth																																				
Amyema cambagei	Needle-leaf Mistletoe																																				
Amyema sp.	Mistletoe																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Arctotheca calendula	Capeweed																									5				1	100			0.5	50	0.5	50
Aristida behriana	Bunch Wiregrass			0.3	1																																
Aristida ramosa	Purple Wiregrass			3	1																																
Arthropodium milleflorum	Pale Vanilla-lily																									0.1											
Arthropodium sp.	-																																				
Asperula conferta	Common Woodruff																									0.1	2										
Austrostipa aristiglumis	Plains Grass																																				
Austrostipa bigeniculata	Yanganbil	0.1	1											5	1							25	1			0.2	5	0.2	50								
Austrostipa densiflora	Foxtail Speargrass																																				
Austrostipa ramosissima	Stout Bamboo Grass																																				
Austrostipa scabra	Speargrass			30	1	0.1	1															5	1			1	100	0.5	100	0.1	2	0.1	5	5			
Austrostipa scabra subsp. *falcata*	Rough Speargrass																																				
Austrostipa sp.	A Speargrass	5	1																																		
Avena barbata	Bearded Oats																	0.1	1							10		1	100								
Avena fatua	Wild Oats	0.5	1	3	1	1	1	1	1	0.3	1	5	1	10	1							0.1	1	0.1	1												
Avena sativa	Oats																																				
Billardiera scandens	Hairy Apple Berry																																				
Bothriochloa macra	Red Grass	5	1	15	1	3	1	5	1	3	1	2	1	40	1			5	1			5	1			0.5	50	1	100	10		5		0.5	10	0.1	1

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Brachychiton populneus	Kurrajong																									0.1	2										
Brachychiton populneus subsp. *populneus*	-											0.2	1																								
Brachyloma daphnoides	Daphne Heath																																				
Brachypodium distachyon	False Brome																																				
Briza maxima	Quaking Grass																																				
Briza minor	Shivery Grass																									0.1	2										
Bromus cartharticus	Prairie Grass																	1	1	0.1	1	0.1	1														
Bromus catharticus	Praire Grass															1	1																				
Bromus diandrus	Great Brome													0.1	1																						
Bromus hordeaceus	Soft Brome			5	1																																
Bromus molliformis	Soft Brome																																				
Bromus racemosus	Smooth Brome																																				
Bromus rubens	Red Brome																																				
Bromus sp.	A Brome																													5		20		1	100	5	
Bulbine bulbosa	Bulbine Lily																																			0.2	200
Bursaria spinosa subsp. *lasiophylla*	Native Blackthorn																																				
Callitris glaucophylla	White Cypress Pine																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Capsella bursa-pastoris	Shepherd's Purse																																				
Carduus pycnocephalus	Slender Thistle																																				
Carex appressa	Tall Sedge							30	1																												
Carex breviculmis	-																																				
Carex inversa	Knob Sedge					0.2	1	0.2	1																									0.1	5		
Carthamus lanatus	Saffron Thistle			5	1																					0.5	100	0.5	100							0.5	50
Cassinia aculeata	Dolly Bush																																				
Cassinia laevis	Cough Bush																																				
Cassinia longifolia	-																																				
Cassytha glabella	-																																				
Casuarina cunninghamiana subsp. *cunninghamiana*	River Oak																																				
Cenchrus ciliaris	Buffel Grass	0.3	1			0.2	1	0.2	1	0.3	1	0.2	1																								
Cenchrus clandestinus	Kikuyu																																				
Cenchrus sp.	-																																				
Centaurea solstitialis	St Barnabys Thistle																																				
Centaurium erythraea	Common Centaury																																				
Chamaesyce dallachyana	-																																				
Chamaesyce drummondii	Caustic Weed																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Cheilanthes austrotenuifolia	Rock Fern			0.1	1																																
Cheilanthes distans	Bristly Cloak Fern																									0.1	5	1	100			0.1	2				
Cheilanthes sieberi	Rock Fern																					0.1	1			0.3	50	1	100	0.2	50					0.2	50
Chenopodium album	Fat Hen																																				
Chenopodium murale	Nettle-leaf Goosefoot													0.1	1	5	1																				
Chloris truncata	Windmill Grass																																				
Chondrilla juncea	Skeleton Weed			1	1			0.2	1	0.2	1	0.1	1	0.1	1	0.1	1											0.1	1								
Cirsium arvense	Perennial Thistle																																				
Cirsium vulgare	Spear Thistle	0.3	1	3	1	0.2	1			0.2	1																										
Citrullus lanatus	-			0.5	1	0.2	1			0.2	1																										
Clematis aristata	Old Man's Beard																																				
Clematis microphylla	Small-leaved Clematis																																				
Convolvulus angustissimus	-																																				
Convolvulus erubescens	Pink Bindweed																																				
Conyza bonariensis	Flaxleaf Fleabane																	0.1	1																		
Conyza sumatrensis	Tall fleabane																																				
Correa reflexa	Native Fuschia																																				
Cotula australis	Common Cotula																									0.1	5							0.1	2		

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Crassula sieberiana	Australian Stonecrop																									0.2	100	0.1	5	0.1	50			0.1	2	0.5	500
Crepis capillaris	Smooth Hawksbeard																																				
Cucumis melo subsp. *melo*	-			0.2	1			0.2	1			0.2	1																								
Cucumis myriocarpus	Paddy Melon																							0.1	1												
Cymbonotus preissianus	Austral Bear's Ear																																			0.1	2
Cynodon dactylon	Common Couch							0.3	1									5	1			0.1	1														
Cynodon dactylon var. *dactylon*	Couch											0.2	1																								
Cynoglossum suaveolens	Sweet Hound's-tongue									0.1	1																										
Cynosurus echinatus	Rough Dog's Tail																	5	1																		
Cyperus eragrostis	Umbrella Sedge																																				
Cyperus sp.	-																																				
Dactylis glomerata	Cocksfoot			0.5	1																																
Dactyloctenium aegyptium	Coast Button Grass																																				
Daucus glochidiatus	Native Carrot																									0.1	5									1	200
Desmodium varians	Slender Tick-trefoil																																				
Dianella revoluta var. *revoluta*	A Blue Flax Lily																																				
Dichelachne micrantha	Shorthair Plumegrass																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dichelachne sieberiana	-																																				
Dichondra repens	Kidney Weed			0.2	1							0.1	1																							0.1	2
Dichopogon fimbriatus	Nodding Chocolate Lily																																				
Dichopogon sp.	-																											0.1	10	0.1	10					0.1	5
Digitaria brownii	Cotton Panic Grass																																				
Digitaria ciliaris	Summer Grass																																				
Digitaria divaricatissima	Umbrella Grass																																				
Digitaria ischaemum	-																																				
Digitaria sanguinalis	Crab Grass									5	1	0.3	1					0.1	1			0.1	1	0.1	1												
Digitaria sp.	A Finger Grass					0.2	1																														
Dillwynia sericea	Egg and Bacon Peas, Parrot Peas																																				
Dipodium roseum	-																																				
Dodonaea viscosa	Sticky Hop-bush																																				
Drosera sp.	-																									0.1	1			0.5	500					0.2	100
Dysphania pumilio	Small Crumbweed																																				
Dysphania sp.	-	0.1	1	0.1	1	0.1	1	0.2	1	0.2	1	0.2	1	1	1	2	1	0.1	1					1	1												

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Echinochloa colona	Awnless Barnyard Grass																																				
Echinochloa crus-galli	Barnyard Grass																																				
Echinopogon caespitosus	Bushy Hedgehog-grass																																				
Echinopogon intermedius	Erect Hedgehog Grass																																				
Echinopogon ovatus	Forest Hedgehog Grass																																				
Echium plantagineum	Patterson's Curse			0.5	1									10	1			1	1					0.5	1	0.5	20	30		0.5	50	10				0.2	10
Echium vulgare	Viper's Bugloss																																				
Ehrharta erecta	Panic Veldtgrass																																				
Einadia hastata	Berry Saltbush	0.5	1																																		
Einadia nutans	Climbing Saltbush					0.2	1	0.3	1			0.1	1													0.1	5	0.1	1					0.2	10		
Eleocharis pusilla	-																																				
Eleusine indica	Crowsfoot Grass											0.1	1																								
Eleusine tristachya	Goose Grass																	0.1	1					0.5	1												
Elymus scaber	Common Wheatgrass					5	1																							1	100	0.2	5				
Enneapogon nigricans	Niggerheads																											0.1	10			0.2	5				
Entolasia marginata	Bordered Panic																																				
Epilobium billardierianum	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Epilobium hirtigerum	-																																				
Eragrostis alveiformis	-																																				
Eragrostis brownii	Brown's Lovegrass																																				
Eragrostis cilianensis	Stinkgrass	0.3	1									0.2	1																								
Eragrostis curvula	African Lovegrass																																				
Eragrostis elongata	Clustered Lovegrass																																				
Eragrostis leptostachya	Paddock Lovegrass							0.1	1	0.1	1					0.1	1			0.1	1	1	1	5	1												
Eragrostis minor	-																																				
Eragrostis parviflora	Weeping Lovegrass																																				
Eragrostis sp.	A Lovegrass																																				
Eragrostis trachycarpa	A Lovegrass																																				
Erodium botrys	Long Storksbill																											0.1	5	10		0.5	50				
Erodium cicutarium	Common Crowfoot													0.1	1																			0.1	1		
Erodium crinitum	Blue Crowfoot																											0.1	2								
Eucalyptus albens	White Box	30	1			30	1			30	1	30	1	10	1									5	1											15	
Eucalyptus blakelyi	Blakely's Red Gum	5	1					40	1																	15								12		5	
Eucalyptus bridgesiana	Apple Box																																				
Eucalyptus camphora subsp. *humeana*	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus dives	Broad-leaved Peppermint																																				
Eucalyptus goniocalyx	Bundy																																				
Eucalyptus macrorhyncha	Red Stringybark																																				
Eucalyptus melliodora	Yellow Box															10	1																				
Eucalyptus nortonii	Large-flowered Bundy																																				
Eucalyptus polyanthemos	Red Box																																				
Eucalyptus polyanthemos subsp. *polyanthemos*	-																																				
Eucalyptus rossii	Inland Scribbly Gum																																				
Eucalyptus sideroxylon	Mugga Ironbark																																				
Euchiton involucratus	Star Cudweed																																				
Euchiton japonicus	-																																				
Euchiton sphaericus	Star Cudweed																																				
Euphorbia dentata	-																																				
Euphorbia heterophylla	-			0.1	1																																
Exocarpos cupressiformis	Cherry Ballart																																				
Gahnia sp.	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Galium aparine	Goosegrass							0.1	1																												
Galium gaudichaudii	Rough Bedstraw																																				
Galium propinquum	Maori Bedstraw																									0.1	1										
Geranium homeanum	-																																				
Geranium molle	Dove's-foot Crane's-bill	0.1	1							0.5	1															0.1	5							0.1	5		
Geranium potentilloides	-																																				
Geranium retrorsum	Cranesbill Geranium																																				
Geranium solanderi	Native Geranium									0.2	1	0.2	1													0.1	5			0.1	1					0.2	100
Geranium solanderi var. *solanderi*	-																																				
Geranium sp. *2*	-																																				
Glycine clandestina	Twining glycine																																				
Glycine tabacina	Variable Glycine									0.1	1																										
Gonocarpus elatus	A Raspwort																																				
Gonocarpus tetragynus	Poverty Raspwort																													6							
Goodenia hederacea	Ivy Goodenia																																				
Haloragis heterophylla	Variable Raspwort																																				
Hardenbergia violacea	False Sarsaparilla																																				
Heliotropium europaeum	Potato Weed													2	1	0.1	1							0.1	1												

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Hibbertia obtusifolia	Hoary Guinea Flower																																				
Holcus lanatus	Yorkshire Fog																																				
Hordeum leporinum	Barley Grass											0.1	1			0.1	1							1	1												
Hordeum murinum	Barley-grass																																				
Hydrocotyle laxiflora	Stinking Pennywort																											0.1	5							0.1	10
Hypericum gramineum	Small St John's Wort																																			0.1	5
Hypericum perforatum	St. Johns Wort			3	1	0.1	1																														
Hypochaeris glabra	Smooth Catsear																																				
Hypochaeris radicata	Catsear					0.2	1	0.2	1	0.1	1			0.1	1			0.1	1			0.1	1			0.5	50	0.2	50	1	500			0.5	500	8	
Hypoxis sp.	-																													0.1	5						
Indigofera australis	Australian Indigo																																				
Isotoma axillaris	Showy Isotome																																				
Juncus australis	Rush																																				
Juncus filicaulis	-																																				
Juncus holoschoenus	-																																				
Juncus homalocaulis	-																																				
Juncus sp.	A Rush							1	1																					0.1	1					0.1	1
Juncus subsecundus	Finger Rush																																				
Juncus usitatus	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lactuca saligna	Willow-leaved Lettuce																																				
Lactuca serriola	Prickly Lettuce																																				
Lepidosperma laterale	Variable Sword-sedge																																				
Leucopogon ericoides	Pink Beard-heath																																				
Lissanthe strigosa	Peach Heath																																				
Lolium loliaceum	Stiff Ryegrass																																				
Lolium multiflorum	Italian Ryegrass																							70	1												
Lolium perenne	Perennial Ryegrass					0.3	1			60	1	0.3	1											10	1	1	200							3	300		
Lolium rigidum	Wimmera Ryegrass													0.1	1	0.1	1	5	1			0.5	1														
Lomandra bracteata	Mat-rush																									0.2	20	0.1	10	0.2	20						
Lomandra filiformis	Wattle Matt-rush																																			0.1	1
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush																																				
Lomandra filiformis subsp. *filiformis*	-																																				
Lomandra glauca	Pale Mat-rush																																				
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush																																				
Lomandra sp.	Mat-rush																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Ludwigia peploides subsp. *montevidensis*	Water Primrose																																				
Lysimachia arvensis	Scarlet Pimpernel																																				
Lythrum hyssopifolia	Hyssop Loosestrife																																				
Malva neglecta	Dwarf Mallow																																				
Malva parviflora	Small-flowered Mallow	0.2	1											2	1	2	1							1	1									0.1	1		
Marrubium vulgare	White Horehound																											0.1	1								
Melichrus urceolatus	Urn Heath																																				
Microlaena stipoides	Weeping Grass	30	1			70	1	30	1	20	1	40	1	5	1			5	1			1	1			5		0.1	5	5		3	300	1	50	6	
Microlaena stipoides var. *stipoides*	Weeping Grass																																				
Microtis sp.	-																																				
Modiola caroliniana	Red-flowered Mallow	0.2	1	0.1	1	0.2	1	0.1	1	0.2	1	0.1	1					0.1	1																		
Monotoca scoparia	-																																				
Nassella neesiana	Chilean Needle Grass																																				
Onopordum acanthium	Scotch Thistle			1	1									0.5	1																						
Opercularia varia	Variable Stinkweed			0.2	1																																
Orobanche minor	Broomrape																																				
Oxalis exilis	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Oxalis perennans	-									0.1	1	0.1	1													0.2	50	0.1	5					0.1	5	0.1	5
Oxalis pes-caprae	Soursob			0.3	1																																
Oxalis sp.	-													0.1	1			0.1	1																		
Oxalis thompsoniae	-																																				
Panicum capillare	Witchgrass																																				
Panicum coloratum	Coolah Grass																																				
Panicum decompositum	Native Millet																																				
Panicum effusum	Hairy Panic							0.2	1																												
Panicum queenslandicum	Yadbila Grass																																				
Panicum simile	Two-colour Panic	5	1	10	1																																
Panicum sp.	Panicum																																				
Paronychia brasiliana	Chilean Whitlow Wort																									0.1	1							0.1	5		
Paspalidium aversum	Bent Summer Grass																																				
Paspalidium constrictum	Knottybutt Grass																																				
Paspalidium distans	-																																				
Paspalidium gracile	Slender Panic																																				
Paspalidium jubiflorum	Warrego Grass																																				
Paspalidium sp.	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Paspalum dilatatum	Paspalum																	10	1																		
Paspalum distichum	Water Couch																																				
Pellaea sp.	-																																				
Persicaria decipiens	Slender Knotweed																																				
Persicaria lapathifolia	Pale Knotweed																																				
Persicaria prostrata	Creeping Knotweed																																				
Persicaria subsessilis	Hairy Knotweed																	0.1	1																		
Petrorhagia dubia	-																																				
Petrorhagia nanteuilii	Proliferous Pink																																				
Petrorhagia prolifera	Proliferous Pink																									0.2	50	0.1	10							0.2	20
Phalaris aquatica	Phalaris													1	1	50	1	20	1	90	1	1	1														
Phragmites australis	Common Reed																																				
Plantago lanceolata	Lamb's Tongues																																				
Plantago major	Large Plantain																																				
Plantago varia	-																																				
Platylobium formosum	-																																				
Poa annua	Winter Grass																																				
Poa bulbosa	Bulbous Poa																															0.1	1	0.5	50		
Poa labillardierei var. *labillardierei*	Tussock																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Poa pratensis	Kentucky Bluegrass																																				
Poa sieberiana	Snowgrass																																			0.1	1
Poa sieberiana var. *sieberiana*	Snowgrass	3	1	2	1																																
Poaceae indeterminate	Grasses, reeds and bamboos																																				
Polygonum aviculare	Wireweed															2	1	0.1	1	1	1	0.1	1														
Polygonum sp.	-																																				
Populus alba	White Poplar																																				
Poranthera microphylla	Small Poranthera																																				
Portulaca oleracea	Pigweed															0.1	1							5	1												
Potentilla recta	-																																				
Proboscidea louisianica	Purple-flowered Devil's Claw									0.1	1																										
Pseudognaphalium luteoalbum	Jersey Cudweed																																				
Pteridium esculentum	Bracken																																				
Ptilotus semilanatus	Lambs tails																																				
Ptilotus spathulatus f. spathulatus	Pussy-tails																																				
Pultenaea spinosa	A Bush Pea																																				
Ricinocarpos bowmanii	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Romulea rosea	Onion Weed																									0.1	100	0.2	100								
Rosa rubiginosa	Sweet Briar																																				
Rubus anglocandicans	Blackberry																																				
Rubus fruticosus sp. *agg.*	Blackberry complex					0.2	1					0.2	1																								
Rubus moorei	Silky Bramble																																				
Rubus parvifolius	Native Raspberry																																				
Rumex acetosella	Sheep Sorrel					0.2	1	2	1			0.3	1					1	1	0.1	1	0.5	1														
Rumex brownii	Swamp Dock	1	1									0.3	1			0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.5	50	0.2	20	0.1	5	0.5	10	1	100	0.1	1
Rumex crispus	Curled Dock																																				
Rumex dumosus	Wiry Dock																																				
Rytidosperma auriculatum	Lobed Wallaby Grass																																				
Rytidosperma caespitosum	Ringed Wallaby Grass																																				
Rytidosperma carphoides	Short Wallaby Grass																																				
Rytidosperma oreophilum	-																																				
Rytidosperma racemosum	Wallaby Grass																																				
Rytidosperma setaceum	Small-flowered Wallaby-grass																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Rytidosperma sp.	-	5	1	40	1	20	1	20	1	20.1	2	20	1			5	1					0.1	1			2	100	0.7	150	10				5		3	300
Salvia verbenaca	Vervain																																				
Schoenoplectus pungens	-																																				
Schoenus apogon	Fluke Bogrush			3	1																																
Scleranthus biflorus	Two-flowered Knawel	0.2	1																																		
Scutellaria humilis	Dwarf Skullcap																																				
Senecio bathurstianus	-																																				
Senecio madagascariensis	Fireweed	0.5	1			0.2	1																															
Senecio quadridentatus	Cotton Fireweed																																				
Senecio sp.	Groundsel, Fireweed																																				
Setaria gracilis	-																																				
Setaria parviflora	-																	0.1	1																		
Setaria sp.	-																																				
Setaria verticillata	Whorled Pigeon Grass																																				
Sherardia arvensis	Field Madder																																			0.1	10
Silybum marianum	Variegated Thistle	0.2	1											0.5	1											0.1	5									0.1	1
Sisymbrium erysimoides	Smooth Mustard																																				
Sisymbrium officinale	Hedge Mustard																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Solanum cinereum	Narrawa Burr																																				
Solanum nigrum	Black-berry Nightshade	0.1	1					0.2	1							0.1	1																				
Solenogyne domini	-																													0.1	10					0.1	2
Soliva sessilis	Bindyi																									0.1	5										
Sonchus asper	Prickly Sowthistle																																				
Sonchus oleraceus	Common Sowthistle																	0.1	1					0.1	1												
Sorghum sp.	-			2	1																																
Sporobolus creber	Slender Rat's Tail Grass																																				
Sporobolus sp.	Rat's Tail Couch																																				
Spyridium parvifolium	Dusty Miller																																				
Stellaria media	Common Chickweed																									0.5	50							0.2	100	0.1	2
Stypandra glauca	Nodding Blue Lily																																				
Taraxacum officinale	Dandelion																																				
Themeda triandra	Kangaroo Grass																																				
Tolpis barbata	Yellow Hawkweed																																				
Tricoryne elatior	Yellow Autumn-lily																													0.1	1					0.1	1
Trifolium angustifolium	Narrow-leaved Clover																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Trifolium arvense	Haresfoot Clover													0.1	1																			0.1	5	0.1	5
Trifolium campestre	Hop Clover																																				
Trifolium dubium	Yellow Suckling Clover																																				
Trifolium fragiferum	Strawberry Clover																																				
Trifolium glomeratum	Clustered Clover																																				
Trifolium incarnatum	Crimson Clover																																				
Trifolium repens	White Clover									0.2	1			0.1	1											5		5		10		40				3	100
Trifolium subterraneum	Subterranean Clover	0.1	1			0.2	1	0.1	1	3	1	0.2	1	1	1			1	1	0.5	1	1	1	0.5	1	0.2	50	1	100	5						0.5	100
Urtica incisa	Stinging Nettle																																				
Urtica urens	Small Nettle																																	0.1	2		
Verbascum thapsus	Aarons Rod	1	1	20	1							0.1	1																					0.1	1		
Verbascum virgatum	Twiggy Mullein																																				
Verbena bonariensis	Purpletop			1	1																																
Verbena rigida	Veined Verbena																																				
Veronica anagallis-aquatica	Blue Water-speedwell																																				
Vicia sativa	Common vetch																																				
Viola betonicifolia	Native Violet																																				
Vittadinia cuneata	A Fuzzweed																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Vittadinia muelleri	A Fuzzweed																																				
Vulpia bromoides	Squirrel Tail Fescue																													20		1	1000			1	1000
Vulpia muralis	Wall Fescue																																				
Vulpia myuros	Rat's Tail Fescue																																				
Wahlenbergia communis	Tufted Bluebell																																				
Wahlenbergia gracilis	Sprawling Bluebell																																				
Wahlenbergia luteola	Bluebell																																				
Wahlenbergia multicaulis	Tadgell's Bluebell																																				
Wahlenbergia sp.	Bluebell																									0.1	10										
Wahlenbergia stricta	Tall Bluebell																											0.2	50					0.2	50		
Wurmbea dioica subsp. dioica	Early Nancy																											0.1	5	0.1	50					0.2	100
Xanthium italicum	Hunter Burr									0.2	1																										
Xanthium occidentale	Noogoora Burr																																				
Xanthium orientale	Californian Burr					0.2	1					0.3	1																								
Xanthium spinosum	Bathurst Burr																																				
Xanthium strumarium	-													0.5	1	1	1	0.1	1					1	1												
Xanthorrhoea glauca	-																																				
Xanthorrhoea glauca subsp. *angustifolia*	-																																				

Scientific Name	Common Name	YG037-1		YG037B35		YG040-1		YG040-2		YG040-3		YG040-4		YG-042A		YG-042B		YG-042C		YG-042D		YG-042E		YG-042F		5957AC04		5957AC07		5957AC32		5957AC42		5957AC43		5957AC65	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Xanthosia atkinsoniana	-			5	1																														
Xanthosia dissecta	Cut-leaved Xanthosia	0.3	1																																
Xerochrysum viscosum	Sticky Everlasting																																		

Table A5- 21: Bondo BAM floristic data

Scientific Name	Common Name	MA-014A1		MA-014A2		MA-092A		MA-092B		MA-092C		MA-092D	
		C	A	C	A	C	A	C	A	C	A	C	A
Acacia melanoxylon	Blackwood			0.5	1								
Acaena novae-zelandiae	Bidgee-widgee							0.1	1				
Acaena ovina	Acaena					0.1	1						
Acrotriche serrulata	Honeypots			0.1	1								
Aira cupaniana	Silvery Hairgrass	0.2	1	0.2	1								
Anthoxanthum odoratum	Sweet Vernal Grass	25	1	20	1	8	1	35	1	30	1		
Avena fatua	Wild Oats	2	1									30	1
Bothriochloa macra	Red Grass	0.1	1							0.1	1	0.1	1
Briza maxima	Quaking Grass			0.5	1								
Bromus cartharticus	Prairie Grass	1	1										
Carthamus lanatus	Saffron Thistle	3	1					0.1	1	0.1	1	0.1	1
Centaurium erythraea	Common Centaury			0.1	1	0.1	1	1	1				
Cheilanthes sieberi	Rock Fern	0.1	1										
Chondrilla juncea	Skeleton Weed	0.1	1	0.1	1								
Cirsium vulgare	Spear Thistle	0.1	1	0.2	1			0.1	1	0.2	1		
Conyza bonariensis	Flaxleaf Fleabane	0.3	1			0.1	1					0.1	1
Cymbonotus lawsonianus	Bear's Ear			0.1	1								
Cynosurus echinatus	Rough Dog's Tail	5	1							20	1	2	1
Dactylis glomerata	Cocksfoot											0.1	1
Digitaria sp.	A Finger Grass											0.1	1
Dysphania pumilio	Small Crumbweed	5	1										
Echium plantagineum	Patterson's Curse	0.1	1			0.1	1					0.1	1
Eleusine tristachya	Goose Grass									0.1	1	0.2	1
Elymus scaber	Common Wheatgrass									0.1	1	0.1	1
Eragrostis alveiformis	-	0.1	1										

Scientific Name	Common Name	MA-014A1		MA-014A2		MA-092A		MA-092B		MA-092C		MA-092D	
		C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus dives	Broad-leaved Peppermint			5	1					2	1		
Eucalyptus macrorhyncha	Red Stringybark									30	1		
Eucalyptus mannifera	Brittle Gum			0.2	1								
Eucalyptus robertsonii	Robertson's Peppermint			0.8	2								
Euchiton sphaericus	Star Cudweed			0.1	1					0.1	1		
Gonocarpus tetragynus	Poverty Raspwort							0.1	1				
Haloragis heterophylla	Variable Raspwort					0.1	1						
Holcus lanatus	Yorkshire Fog	0.1	1									0.1	1
Hordeum leporinum	Barley Grass									0.1	1		
Hypericum perforatum	St. Johns Wort	2	1	0.1	1	0.1	1	0.1	1			0.1	1
Hypochaeris radicata	Catsear	2	1	0.2	1	0.1	1	0.1	1	0.2	1	0.5	1
Juncus filicaulis	-					0.1	1						
Lactuca serriola	Prickly Lettuce	0.1	1									0.1	1
Leptorhynchos squamatus	Scaly Buttons			1	1								
Lolium rigidum	Wimmera Ryegrass									0.1	1		
Lomandra filiformis	Wattle Matt-rush							0.1	1				
Lomandra glauca	Pale Mat-rush			0.1	1								
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush			0.1	1								
Microlaena stipoides	Weeping Grass	5	1					5	1	15	1	15	1
Microtis sp.	-							0.1	1				
Moenchia erecta	Erect Chickweed									0.1	1		
Oxalis exilis	-	0.1	1							0.1	1	0.1	1
Panicum effusum	Hairy Panic			0.1	1								
Phalaris aquatica	Phalaris	0.1	1									2	1
Plantago lanceolata	Lamb's Tongues	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	1	1
Polygonum aviculare	Wireweed									0.1	1		
Prunella vulgaris	Self-heal							0.1	1				
Pteridium esculentum	Bracken			1	1								
Rosa rubiginosa	Sweet Briar			0.2	1	0.1	1	0.1	1	0.1	1	0.1	1
Rubus anglocandicans	Blackberry	2	1	1	1	1	1	0.2	1	0.2	1	35	1
Rumex acetosella	Sheep Sorrel	2	1			0.1	1	0.1	1	0.1	1	2	1
Rumex brownii	Swamp Dock									0.1	1		
Rytidosperma racemosum	Wallaby Grass							5	1	1	1		
Senecio quadridentatus	Cotton Fireweed	0.1	1										
Setaria parviflora	-									0.1	1	0.1	1
Sisymbrium officinale	Hedge Mustard	0.1	1										
Sonchus oleraceus	Common Sowthistle	0.1	1										

Scientific Name	Common Name	MA-014A1		MA-014A2		MA-092A		MA-092B		MA-092C		MA-092D	
		C	A	C	A	C	A	C	A	C	A	C	A
Taraxacum officinale	Dandelion					0.1	1	0.1	1				
Themeda triandra	Kangaroo Grass			60	1	90	1	50	1				
Trifolium angustifolium	Narrow-leaved Clover											0.5	1
Trifolium repens	White Clover									0.2	1	0.5	1
Trifolium subterraneum	Subterranean Clover	2	1							0.1	1		
Vulpia myuros	Rat's Tail Fescue	10	1									2	1

Table A5- 22: Snowy Mountains BAM floristic data

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Acacia dealbata	Silver Wattle	0.2	1	20	1															5	1			45	1	70	1				
Acacia implexa	Hickory Wattle					5	1													0.1	1	1	1	0.2	1					0.5	1
Acaena novae-zelandiae	Bidgee-widgee			0.8	1	0.1	1							5	1	0.2	1			0.5	1	0.5	1	0.1	1	0.3	1			5	1
Acaena ovina	Acaena									0.5	1	0.2	1	0.5	1	0.5	1	1	1			0.1	1							0.2	1
Acaena sp.	Sheep's Burr							0.5	1																						
Acrotriche serrulata	Honeypots															0.1	1											0.5	1		
Aira cupaniana	Silvery Hairgrass																	0.1	1												
Amperea xiphoclada	-																													0.1	1
Arthropodium milleflorum	Pale Vanilla-lily			0.1	1															0.1	1	0.1	1							0.2	1
Asperula conferta	Common Woodruff															0.1	1									0.1	1				
Asperula gunnii	Mountain Woodruff					0.8	1																								
Asperula scoparia	Prickly Woodruff			3	1			0.3	1	0.1	1	0.1	1	0.1	1			0.1	1	0.5	1	0.5	1	1	1	1	1			0.5	1

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Austrostipa scabra subsp. *falcata*	Rough Speargrass																									0.3	1				
Baeckea utilis	Mountain Baeckea																											2	1		
Bossiaea foliosa	Leafy Bossiaea																													0.8	1
Brachyscome aculeata	Hill Daisy																									0.2	1				
Bromus hordeaceus	Soft Brome											8	1																		
Bulbine bulbosa	Bulbine Lily					0.1	1											0.1	1											0.1	1
Bulbine sp.	-			0.1	1	0.1	1															0.1	1							0.5	1
Carex appressa	Tall Sedge																											0.3	1		
Carex fascicularis	Tassel Sedge																											0.2	1		
Carex gaudichaudiana	-																											1	1		
Carex sp.	-																													0.1	1
Cassinia laevis	Cough Bush																			5	1			0.1	1					1	1
Cassinia sp.	-									0.1	1																				
Centaurium erythraea	Common Centaury	0.1	1					20	1	1	1	1	1	10	1	5	1	3	1							0.5	1	0.2	1		
Chrysocephalum semipapposum	Clustered Everlasting					5	1																								
Chrysocephalum sp.	-																									0.3	1				
Cirsium arvense	Perennial Thistle	0.1	1									0.5	1									0.1	1							0.1	1
Cirsium vulgare	Spear Thistle			0.1	1					0.5	1																				

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Clematis aristata	Old Man's Beard	0.1	1	0.2	1									0.1	1	0.1	1			0.1	1	0.5	1	0.1	1					0.1	1
Clematis sp.	-					0.5	1			0.1	1																				
Conyza bonariensis	Flaxleaf Fleabane	0.5	1	0.1	1					0.1	1	0.1	1	0.1	1					0.1	1	0.1	1	0.1	1					0.1	1
Coprosma hirtella	Coffee-berry					0.1	1													0.5	1	0.1	1	8	1					0.1	1
Coronidium elatum	-																	0.1	1	0.2	1	5	1			0.2	1				
Crepis capillaris	Smooth Hawksbeard	0.1	1									0.2	1																		
Cullen tenax	Emu-foot			40	1																	0.5	1								
Cymbonotus lawsonianus	Bear's Ear			0.1	1	0.2	1			0.1	1	0.5	1					1	1	0.5	1	0.5	1							0.1	1
Cymbonotus sp.	-																									0.2	1				
Cynoglossum suaveolens	Sweet Hound's-tongue							0.1	1																	0.1	1				
Cyperus sp.	-																	0.1	1												
Dactylis glomerata	Cocksfoot							30	1																	0.3	1	0.5	1		
Daviesia latifolia	Bitter-pea			0.1	1	30	1			4	1					0.1	1	0.1	1	0.1	1	50	1	0.1	1	2	1			0.1	1
Daviesia ulicifolia	Gorse Bitter Pea			0.5	1																										
Desmodium gunnii	Slender Tick-trefoil					0.1	1																								
Desmodium varians	Slender Tick-trefoil													0.1	1																
Deyeuxia gunniana	-																											0.3	1		
Dianella caerulea	Blue Flax-lily																													0.1	1
Dianella longifolia	Blueberry Lily																									0.2	1				

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Dianella sp.	-																			0.2	1			0.3	1				
Dichelachne micrantha	Shorthair Plumegrass			0.1	1	2	1			5	1			5	1	0.5	1	1	1	10	1			0.1	1				0.2	1
Dichelachne rara	-																												0.2	1
Dichelachne sp.	A Plumegrass																					1	1			0.1	1			
Dichondra repens	Kidney Weed							0.3	1			0.1	1	0.1	1											0.2	1		5	1
Drosera peltata	A Sundew																											0.1	1		
Dysphania pumilio	Small Crumbweed	0.1	1							0.3	1																			
Echinopogon caespitosus	Bushy Hedgehog-grass	15	1																											
Elymus scaber	Common Wheatgrass	0.5	1	0.1	1			1	1	0.2	1	5	1	0.5	1					0.2	1					1	1		0.2	1
Empodisma minus	-																											30	1		
Epacris breviflora	-													0.1	1													5	1		
Epacris paludosa	Swamp Heath																											0.5	1		
Epilobium billardierianum subsp. *billardierianum*	-							0.2	1			0.2	1	0.1	1			0.1	1							0.2	1			
Eucalyptus dalrympleana	Mountain Gum	10	1	10	1													0.2	1											
Eucalyptus dalrympleana subsp. *dalrympleana*	-					10	1									0.5	1			10	1	15	1	20	1				10	1

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Eucalyptus delegatensis subsp. *delegatensis*	-																			5	1								
Eucalyptus pauciflora	White Sally	0.3	1	20	1	15	1	0.2	1	0.2	1					0.5	1			0.5	1	5	1					20	1
Eucalyptus robertsonii	Robertson's Peppermint																			5	1			8	1				
Eucalyptus stellulata	Black Sally																					2	1						
Euchiton involucratus	Star Cudweed							0.1	1																				
Euchiton japonicus	-									0.1	1	0.1	1	0.1	1	0.1	1	0.1	1										
Euchiton sphaericus	Star Cudweed	0.2	1			0.1	1																					0.1	1
Gamochaeta americana	Cudweed													0.1	1			0.1	1										
Genoplesium sp.	-													0.1	1	0.1	1					0.1	1	0.1	1			0.1	1
Geranium neglectum	-	0.1	1	0.5	1					0.2	1									0.5	1	0.2	1					0.8	1
Geranium solanderi	Native Geranium	1	1			0.1	1					10	1			0.1	1					0.2	1	0.5	1				
Geranium solanderi var. *solanderi*	-							1	1																	0.3	1		
Geranium sp.	-																											0.1	1
Geranium sp. 2	-									0.2	1			10	1			0.5	1										
Glycine clandestina	Twining Glycine			0.1	1													0.1	1	0.2	1	0.1	1	0.5	1			0.2	1
Glycine tabacina	Variable Glycine																									0.1	1		
Gonocarpus micranthus	-																											1	1

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
subsp. *micranthus*																													
Gonocarpus tetragynus	Poverty Raspwort									0.1	1									0.2	1	0.1	1	0.2	1	0.2	1			0.5	1
Hakea microcarpa	Small-fruited Hakea																											1	1		
Haloragis serra	-																					0.1	1	0.1	1						
Holcus lanatus	Yorkshire Fog	1	1							0.1	1							0.8	1			0.1	1							0.3	1
Hydrocotyle laxiflora	Stinking Pennywort	0.1	1	0.1	1	0.1	1							0.1	1					0.2	1	0.2	1	0.2	1	0.3	1			2	1
Hydrocotyle sibthorpioides	-																											3	1		
Hypericum gramineum	Small St John's Wort			0.1	1	0.1	1															0.1	1							0.1	1
Hypericum perforatum	St. Johns Wort	0.1	1					1	1	3	1	3	1	5	1	1	1	0.8	1							5	1				
Hypochaeris radicata	Catsear	0.1	1	0.1	1	0.1	1	0.3	1	2	1	3	1	5	1	0.8	1	5	1	0.1	1	0.1	1							0.1	1
Juncus falcatus	-																											1	1		
Juncus sarophorus	-																											0.5	1		
Juncus sp.	A Rush									0.4	1	0.1	1																		
Lachnagrostis filiformis	-																													0.1	1
Lachnagrostis sp.	-									5	1	20	1																		
Lagenophora stipitata	Common Lagenophora			0.1	1	0.1	1													0.1	1									0.1	1
Leptospermum myrtifolium	-							0.3	1	0.7	1			1	1			0.1	1							1	1	10	1		

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Lepyrodia anarthria	-																										0.2	1		
Leucopogon fletcheri subsp. *brevisepalus*	-																									0.2	1			
Lobelia purpurascens	Whiteroot																									0.2	1			
Lobelia sp.	-	1	1			0.1	1			0.5	1																	0.1	1
Lomandra filiformis subsp. *coriacea*	Wattle Matt-rush			0.2	1																								
Lomandra longifolia	Spiny-headed Mat-rush																			15	1	0.1	1	0.5	1	0.5	1	0.2	1		
Lomandra multiflora subsp. *multiflora*	Many-flowered Mat-rush			1	1	0.1	1			23	1	0.2	1	3	1					0.2	1	0.2	1	0.1	1				3	1
Lomandra sp.	Mat-rush															0.5	1	0.8	1											
Lomatia fraseri	Silky Lomatia																			0.5	1									
Luzula densiflora	Woodrush													0.1	1															
Lysimachia arvensis	Scarlet Pimpernel	0.1	1																											
Microlaena stipoides	Weeping Grass							0.5	1	0.5	1																			
Microtis sp.	-																												0.1	1
Olearia erubescens	Pink-tip Daisy-bush			0.5	1	5	1			0.5	1									1	1	0.5	1	0.5	1	0.2	1		0.1	1
Olearia megalophylla	Large-leaf Daisy-bush																			0.1	1									
Opercularia hispida	Hairy Stinkweed			0.1	1	0.1	1																						0.1	1
Oreomyrrhis eriopoda	Australian Carraway			0.1	1	0.5	1			0.1	1					0.1	1					0.2	1			1	1			

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Oxalis sp.	-																											0.1	1
Patersonia fragilis	Swamp Iris																									0.2	1		
Persoonia chamaepeuce	-																									0.1	1		
Persoonia chamaepitys	Mountain Geebung					0.1	1							0.2	1					0.2	1	0.2	1	0.1	1				
Pimelea alpina	-																	0.5	1										
Pimelea linifolia	Slender Rice Flower																			0.1	1								
Pimelea linifolia subsp. *caesia*	-																									0.5	1		
Pimelea sp.	-					0.1	1																						
Plantago lanceolata	Lamb's Tongues											10	1			0.1	1									0.1	1		
Plantago varia	-							0.1	1													0.2	1						
Platylobium formosum	-									0.1	1									5	1			1	1			5	1
Poa costiniana	Bog Snowgrass																									5	1		
Poa induta	-							0.2	1																				
Poa meionectes	-							2	1																				
Poa sieberiana	Snowgrass	20	1							5	1																	60	1
Poa sieberiana var. *sieberiana*	Snowgrass			5	1	15	1	20	1			0.2	1	10	1	0.5	1	0.5	1	2	1	25	1	0.8	1	60	1		
Poa sp.	-	0.1	1			1	1							0.1	1					0.5	1								
Podolepis jaceoides	Showy Copper-wire Daisy					0.1	1			0.5	1					0.2	1	0.2	1										

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Polyscias sambucifolia	Elderberry Panax																			0.1	1								
Poranthera microphylla	Small Poranthera			0.1	1	0.1	1											0.1	1	0.1	1	0.1	1						0.1	1
Potentilla recta	-							0.5	1	0.1	1	5	1	0.5	1	0.1	1									0.3	1			
Prunella vulgaris	Self-heal									0.2	1																			
Pteridium esculentum	Bracken	15	1							5	1									25	1			35	1	0.5	1			
Ranunculus lappaceus	Common Buttercup			0.1	1					0.1	1	0.1	1							0.1	1	0.1	1						0.5	1
Rubus fruticosus sp. *agg.*	Blackberry complex	1	1							2	1			0.2	1	0.1	1							5	1	0.2	1		0.3	1
Rubus parvifolius	Native Raspberry	1	1	0.5	1																			0.2	1					
Rumex acetosella	Sheep Sorrel							0.2	1	0.2	1	0.5	1	0.1	1	0.1	1	0.1	1							0.5	1			
Rumex brownii	Swamp Dock											0.1	1																	
Rytidosperma sp.	-			1	1	5	1	0.1	1	7	1	5	1	10	1							5.5	2	1	1	2	1		3.5	2
Schoenus apogon	Fluke Bogrush																											1	1	
Scleranthus biflorus	Two-flowered Knawel							0.1	1	0.1	1			0.1	1	0.1	1	0.2	1							0.2	1			
Senecio gunnii	-			0.1	1	0.5	1													0.1	1	0.2	1	0.1	1	0.1	1		0.1	1
Senecio quadridentatus	Cotton Fireweed			0.1	1																									
Senecio sp.	Groundsel, Fireweed			0.1	1																									
Solanum nigrum	Black-berry	0.1	1																											

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
	Nightshade																												
Solenogyne bellioides	Solengyne																	5	1										
Solenogyne dominii	-											0.5	1																
Solenogyne sp.	-									0.1	1																		
Sonchus oleraceus	Common Sowthistle																											0.1	1
Stellaria pungens	Prickly Starwort	0.1	1	0.5	1	0.2	1			0.1	1	0.2	1			0.1	1			0.2	1					0.5	1	5	1
Stylidium graminifolium	Grass Triggerplant					0.1	1									0.1	1	0.4	1	0.1	1	0.1	1			0.2	1	0.2	1		
Taraxacum officinale	Dandelion							0.1	1																	1	1			
Tasmannia lanceolata	Mountain Pepperbush																			0.2	1								
Tetratheca bauerifolia	-					0.5	1																						
Teucrium sp.	-									0.5	1																		
Themeda triandra	Kangaroo Grass							40	1			0.1	1	30	1	85	1	60	1			0.1	1			0.2	1	0.3	1		
Thysanotus tuberosus	Common Fringe-lily																					0.1	1						
Trifolium arvense	Haresfoot Clover							3	1	10	1	1	1	1	1	0.5	1	5	1							0.1	1			
Trifolium campestre	Hop Clover									0.1	1	0.5	1	0.1	1	0.1	1	0.1	1									0.1	1
Trifolium repens	White Clover			0.5	1							15	1					0.1	1			0.5	1					0.3	1
Veronica plebeia	Trailing Speedwell	0.1	1	0.1	1	0.1	1			0.1	1					0.1	1					0.1	1			0.1	1		
Veronica sp.	-																									0.5	1		
Veronica subtilis	-																											0.2	1

Scientific Name	Common Name	MA0041AA		MA0077B6		MA-009A		MA094E3		MA094OUT1		MA094OUT2		MA094OUT3		MA094OUT4		MA094OUT5		WM094284		WM094971		WM094A1B		WM094E1		WM094E2		WM117798	
		C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
Viola betonicifolia	Native Violet			0.1	1	0.1	1			0.1	1									0.1	1	0.1	1	0.1	1	0.1	1			0.1	1
Vulpia myuros	Rat's Tail Fescue							0.2	1			0.1	1					0.1	1												
Wahlenbergia ceracea	Waxy Bluebell																											0.5	1		
Wahlenbergia stricta	Tall Bluebell	0.1	1			0.1	1													0.1	1	0.1	1							0.1	1

Attachment 6: BAM plot function, structure and composition scores

This attachment presents the Biodiversity Assessment Method (BAM) plot function, structure and composition scores used to inform the Vegetation Integrity (VI) of Plant Community Types (PCTs) within the project footprint. Plot composition scores comprise a count of each growth form recorded as occurring within each plot. Structure scores relate to the percent cover of each growth form. Function scores include the number of large trees, a hollow-bearing tree (HBT) count, percent litter cover (LC), length of fallen logs (FLL) in metres and the presence/ absence each tree stem size class (1= present; 0= absent). This data is presented separately for each IBRA subregion within Table A6- 1 to Table A6- 6.

Where a vegetation zone occurs within multiple patch size classes, plot data has been replicated in the BAM-C to represent the data for that vegetation zone in each patch size class, as per the BAM.

Table A6- 1: Bungonia IBRA Subregion BAM plot function, structure and composition scores

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10[1]	10-20	20-30	30-50	50-80	Regen	HTE
BY001BD2	283	0.26	>100	Moderate	56	228919.195	6185368.5	70	4	2	12	11	0	1	5.8	0.2	9.8	1.1	0	0.1	0	1	24	36	1	1	1	1	0	0	1.1
BY001F8E	283	0.26	>100	Moderate	56	228821.262	6185398.42	270	2	1	10	6	0	0	6.0	0.1	14.4	1.1	0.0	0.0	1	1	13.4	0.0	0	0	0	0	1	1	1.7
BY008-F	870	1.69	>100	Very high	55	774485.279	6186503.32	250	1	7	5	9	1	0	30.0	9.5	27.2	36.7	0.1	0.0	4	3	91.0	35.0	1	1	1	1	1	1	0.0
BY008-G	870	1.69	>100	Very high	55	774806.252	6186504.03	270	2	7	7	10	0	0	32.0	23.5	15.7	17.9	0.0	0.0	1	1	50.0	230.0	1	1	1	1	1	1	0.0
BY008-H	870	1.69	>100	Very high	55	774865.267	6186621.07	105	2	4	7	12	1	2	28.0	50.4	11.4	1.6	0.1	0.2	1	0	78.0	65.0	1	1	1	1	1	1	0.0
BY-014I	1093	0.38	>100	Low	55	768088.098	6185256.3	153	2	4	8	4	0	0	6.0	0.6	60.7	0.4	0.0	0.0	0	0	8.0	2.0	0	1	1	0	0	1	5.1
BY-014D	1093	1.96	>100	Very high	55	768756.629	6185620.96	112	3	11	8	13	0	1	25.1	74.5	23.3	3.8	0.0	0.2	4	3	35.0	85.0	1	1	1	1	1	1	8.2
BY-014F	1093	1.96	>100	Very high	55	768512.56	6185401.5	358	3	8	4	16	2	1	20.0	2.2	1.9	2.6	0.2	2.0	2	1	37.0	96.0	1	1	1	0	1	1	0.5
BY-014H	1093	1.96	>100	Very high	55	768225.934	6185295.34	310	2	10	7	10	0	1	30.0	6.3	1.4	9.8	0.0	0.1	3	1	67.0	127.0	0	1	1	1	1	1	0.0
BY-014B	1093	0.30	>100	Low	55	768981.648	6185753.57	87	1	0	4	6	1	0	10.0	0.0	40.3	1.5	0.1	0.0	2	1	6.0	15.0	0	0	0	1	1	0	0.5
BY-014C	1093	0.03	>100	Low	55	768909.433	6185743.77	279	1	0	3	5	0	0	15.0	0.0	15.9	20.4	0.0	0.0	3	1	15.0	35.0	0	0	1	1	1	0	0.1
BY-020B	1097	0.35	<5, >100	Very low	56	226300.167	6186875.44	346	2	0	0	0	0	0	25.0	0.0	0.0	0.0	0.0	0.0	5	3	15.0	17.0	0	0	1	1	1	0	0.0
BY020DBC	1097	0.35	<5, >100	Very low	56	228821.262	6185398.42	160	1	0	1	1	0	0	10.0	0.0	0.1	0.1	0.0	0.0	3	3	7.0	56.0	0	0	0	0	1	0	0.2
BY010012FA	1107	0.31	>100	High	55	774485.279	6186503.32	170	4	4	12	17	2	3	15.3	40.2	17.6	39.2	2.1	0.7	1	1	15.0	78.0	1	0	1	0	1	0	0.1
BY0109B6	1107	0.31	>100	High	55	774806.252	6186504.03	211	3	6	10	19	2	4	35.0	10.7	43.2	32.4	2.1	0.6	1	2	22.0	108.0	0	1	1	1	1	0	0.1
BY008-C	1150	0.67	>100	Moderate	55	765655.855	6183635.97	30	0	3	9	9	0	1	0.0	15.3	2.5	5.9	0.0	0.1	1	1	54.0	31.0	1	1	1	1	1	0	0.0
BY010F5E	1150	11.01	>100	High	56	226300.167	6186875.44	34	3	9	5	6	0	2	14.0	1.4	3.5	32.4	0.0	0.2	0	0	55.0	126.0	0	1	1	1	0	1	0.0
BY-014E	1330	1.30	>100	Very high	56	228821.262	6185398.42	262	3	9	11	18	1	0	20.0	47.1	12.0	3.8	0.1	0.0	2	0	41.0	70.0	1	1	1	1	1	1	5.9
BY006-C	1330	1.30	>100	Very high	55	774485.279	6186503.32	100	1	3	10	5	1	0	20.0	5.3	24.8	15.3	0.1	0.0	2	0	49.0	12.0	1	1	1	1	1	1	0.1
BY016CE4	1330	1.30	>100	Very high	55	774806.252	6186504.03	193	5	9	7	13	0	2	19.7	3.2	2.1	6.9	0.0	0.6	3	0	84.0	23.0	0	1	1	1	1	0	15.1
BY001CF1	1330	14.70	>100	Low	55	774865.267	6186621.07	105	1	0	2	7	0	0	3.0	0.0	5.5	0.8	0.0	0.0	1	1	8.4	28.0	1	0	1	1	1	0	1.4

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10[1]	10-20	20-30	30-50	50-80	Regen	HTE
BY006-B	1330	14.70	>100	Low	55	768088.098	6185256.3	120	0	1	9	4	0	0	0.0	0.1	59.4	2.5	0.0	0.0	0	0	70.0	0.0	0	0	0	0	0	0	5.0
BY-014G	1330	14.70	>100	Low	55	768756.629	6185620.96	5	1	2	4	6	1	1	5.0	5.5	25.7	1.1	0.2	0.1	0	0	6.0	15.0	1	1	0	0	0	1	47.0
BY006-A	1330	14.70	>100	Low	55	768512.56	6185401.5	270	0	0	7	6	1	2	0.0	0.0	21.4	26.4	0.1	0.2	0	0	23.0	8.0	0	0	0	0	0	0	2.2
BY008-B	1330	1.30	>100	Very high	55	765655.855	6183635.97	340	3	3	5	10	0	3	42.0	5.6	9.2	2.8	0.0	0.3	1	1	50.0	40.0	1	1	1	1	1	1	2.1
BY008-D	1330	14.70	>100	Low	55	765655.855	6183635.97	100	0	2	11	2	0	0	0.0	0.2	74.9	0.2	0.0	0.0	0	0	87.0	3.0	0	0	0	0	0	0	0.0

TG = Tree Group, SG = Shrub Group, GG = Grass & Grass-like Group, FG = Forb Group, EG = Fern Group, OG = Other Group, HBT = Hollow-bearing Tree, LC = Litter Cover, FLL = Length of fallen Logs (m), Tree Stem Size Class (diameter breast height of trunk in cm), 5-10, 10-20, 20-30, 30-50 and 50-80, Regen = Tree Stem Size Class <5 cm

Table A6- 2: Crookwell IBRA Subregion BAM plot function, structure and composition scores

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
BY066A52	1330	17.79	25-100, >100	Very low	55	738621.384	6171602.28	288	0	0	3	1	0	0	0.0	0.0	0.8	0.1	0.0	0.0	0	0	0.8	0.0	0	0	0	0	0	0	1.0
BY044D31	280	1.54	>100	Moderate	55	752491.319	6176776.86	240	3	1	6	0	0	0	11.0	0.1	11.6	0.0	0.0	0.0	1	1	75.0	108.0	1	1	1	1	1	1	65.1
146MP008	283	0.86	>100	High	55	736662.877	6171784	110	2	0	9	9	0	0	18.0	0.0	62.9	1.3	0.0	0.0	1	3	35.0	25.0	1	1	1	1	1	1	5.0
511MP003	283	0.01	>100	Low	55	736191.31	6171435.8	293	3	2	15	16	1	0	22.0	0.2	10.7	1.7	0.1	0.0	5	4	20.8	85.0	1	1	1	0	1	1	10.3
146MP006	283	0.01	>100	Low	55	736762.165	6171865.89	56	2	0	10	8	0	0	0.8	0.0	74.5	0.8	0.0	0.0	0	0	2.8	0.0	0	0	0	0	0	1	0.3
511MP005	283	0.01	>100	Low	55	736441.686	6171732.46	54	0	1	10	5	1	0	0.0	0.1	49.7	0.5	0.1	0.0	0	0	6.2	13.0	0	0	0	0	0	0	0.2
BY044B95	679	0.11	>100	Moderate	55	751931.375	6176572.04	340	1	6	4	6	1	0	0.5	1.7	81.2	1.0	0.1	0.0	0	0	79.0	1.0	1	0	0	0	0	1	0.0
BY044EBA	679	0.38	>100	Low	55	751891.73	6176630.95	120	1	3	4	11	0	0	10.0	0.3	41.1	6.0	0.0	0.0	0	0	89.0	0.0	1	1	1	1	1	1	0.1
BY096B08	679	0.07	>100	High	55	717866.706	6164726.52	279	3	2	9	13	0	0	11.0	0.2	32.5	1.9	0.0	0.0	4	6	3.6	135.0	1	1	1	1	1	0	0.5
BY-048A	727	1.09	>100	Very high	55	749946.496	6175888.53	265	3	2	7	11	0	1	26.0	0.9	33.6	1.4	0.0	0.3	1	2	53.0	8.0	0	1	1	1	1	1	5.1
BY-049A	727	1.09	>100	Very high	55	749785.996	6175859.46	270	2	9	5	6	0	1	30.0	2.5	55.4	1.5	0.0	0.2	1	0	56.0	25.0	1	1	1	1	0	1	0.0
BY045261	727	1.25	>100	Very low	55	751229.601	6176375.92	91	0	2	9	9	0	0	0.0	35.1	23.6	1.3	0.0	0.0	0	0	8.4	1.0	0	0	0	0	0	0	0.1
BY045BFA	727	1.25	>100	Very low	55	751617.602	6176491.36	253	0	4	8	9	0	0	0.0	35.4	92.5	1.5	0.0	0.0	0	0	11.0	0.0	0	0	0	0	0	0	0.0
BY0455B5	727	0.98	<5, >100	Moderate	55	751377.333	6176382.41	250	3	1	9	8	0	1	28.0	45.0	26.9	1.8	0.0	3.0	0	1	34.0	18.0	1	1	1	1	0	1	8.0
BY-049B	727	0.98	<5, >100	Moderate	55	749623.928	6175849.97	238	3	6	11	8	0	0	5.7	10.6	50.4	5.8	0.0	0.0	0	0	0.6	2.0	1	0	0	0	0	1	0.2
BY-049C	727	1.09	>100	Very high	55	749460.877	6175783.73	230	4	8	10	19	0	2	32.2	21.2	25.4	4.0	0.0	0.2	5	4	64.0	137.0	1	1	1	1	1	1	1.1
BY-032A	731	0.65	>100	High	55	757587.211	6178562.23	65	1	3	8	10	0	1	30.0	15.2	31.5	1.6	0.0	0.1	6	2	19.0	86.0	1	1	1	1	1	1	0.2
BY-032C	731	2.40	>100	Low	55	757997.722	6178619.79	56	0	1	9	8	0	1	0.0	0.1	77.0	0.9	0.0	0.2	0	0	8.0	0.0	0	0	0	0	0	0	8.1
BY03130D	731	2.40	>100	Low	55	758041.412	6178812.72	10	0	1	3	9	0	1	0.0	0.1	76.5	1.4	0.0	0.1	0	0	3.2	0.0	0	0	0	0	0	1	0.7
BY0348E7	731	3.58	>100	Moderate	55	757393.241	6178512.93	253	0	1	8	10	0	0	0.0	0.1	97.5	2.0	0.0	0.0	0	0	0.2	1.0	0	0	0	0	0	0	0.0
BY035E53	731	3.58	>100	Moderate	55	756156.237	6178099.97	52	3	5	8	8	1	1	38.0	6.5	5.2	3.7	0.5	0.1	1	1	75.0	108.0	1	1	1	1	1	1	0.1
BY-032B	731	3.58	>100	Moderate	55	757886.757	6178584.73	66	1	1	2	7	0	1	20.0	0.1	10.1	2.7	0.0	0.2	1	0	10.0	45.0	1	1	0	1	1	1	5.2
BY-029A	952	0.39	>100	Low	55	759244.759	6178977.95	187	1	0	6	2	0	0	5.0	0.0	21.2	0.6	0.0	0.0	1	0	6.0	30.0	0	1	1	1	1	1	1.3
BY-029C	952	0.39	>100	Low	55	758614.751	6178758.41	270	0	1	7	2	0	0	0.0	0.1	80.4	0.3	0.0	0.0	1	1	6.0	3.0	0	0	0	0	1	1	0.3
BY-029D	952	0.39	>100	Low	55	758445.382	6178760.46	350	1	1	3	3	0	0	30.0	0.1	6.0	0.8	0.0	0.0	7	2	20.0	12.0	1	1	0	1	1	1	2.1
BY-029B	952	0.41	>100	Moderate	55	759003.848	6178897.2	198	1	0	5	2	0	0	8.0	0.0	77.5	0.3	0.0	0.0	1	1	12.0	54.0	1	1	1	0	1	1	1.0
BY-032D	952	0.41	>100	Moderate	55	758135.363	6178661.74	217	1	2	1	9	1	1	30.0	2.1	0.1	2.6	5.0	0.1	1	2	18.0	60.0	1	1	1	1	1	1	2.1
BY-026A	952	2.28	>100	Very low	55	760851.32	6180094.19	39	0	0	8	2	0	0	0.0	0.0	67.8	0.3	0.0	0.0	0	0	5.0	0.0	0	0	0	0	0	0	5.7
BY052A65	1093	7.07	>100	High	55	748422.212	6175411.89	110	2	6	5	3	0	0	35.0	2.4	15.9	0.6	0.0	0.0	0	0	86.0	24.0	1	1	1	0	0	1	0.0
BY052FAF	1093	7.07	>100	High	55	748061.608	6175315.95	102	4	7	4	4	0	1	28.0	8.2	1.7	0.5	0.0	0.1	0	2	85.6	85.0	1	1	1	0	0	0	0.0
BY083EC7	1093	7.07	>100	High	55	724343.124	6166875.62	101	2	2	10	4	0	1	35.0	0.3	62.2	0.8	0.0	0.1	2	5	47.0	82.0	1	1	1	1	1	1	2.5
BY0382AE	1093	2.15	<5, >100	Low	55	754195.414	6177375.6	63	0	2	8	7	1	0	0.0	0.7	67.9	0.9	0.1	0.0	0	0	2.6	0.0	0	0	0	0	0	1	0.5
BY038CA3	1093	2.15	<5, >100	Low	55	754559.872	6177540.69	227	0	1	10	3	1	0	0.0	0.1	86.3	0.4	0.1	0.0	0	0	31.0	0.0	0	0	0	0	0	0	0.3
BY076ED0	1093	2.15	<5, >100	Low	55	725879.166	6167455.81	291	3	1	4	7	0	0	15.0	0.1	45.2	0.7	0.0	0.0	1	0	19.0	1.0	1	1	1	0	0	1	7.0
BY0529A5	1093	2.15	<5, >100	Low	55	748794.034	6175516.08	63	2	5	8	10	0	0	5.0	15.4	96.3	1.5	0.0	0.0	0	0	4.4	1.0	1	0	1	0	0	1	0.1

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
BY052F82	1093	2.15	<5, >100	Low	55	748583.237	6175527.63	245	4	10	14	9	1	0	2.6	6.9	35.3	1.0	0.1	0.0	0	0	0.8	0.0	1	1	0	0	0	1	0.0
BY052BA4	1093	0.54	<5, >100	Moderate	55	748749.107	6175666.36	30	3	7	10	20	0	0	1.6	1.1	47.9	2.0	0.0	0.0	1	1	8.0	2.0	1	1	1	0	1	1	0.0
BY05274F	1093	7.07	>100	High	55	748916.161	6175561.67	105	5	12	11	14	0	0	12.0	8.2	42.5	5.8	0.0	0.0	2	0	91.0	35.0	1	1	1	1	1	1	0.2
BY0573C9	1093	0.54	<5, >100	Moderate	55	743961.484	6174053.58	282	4	1	6	2	1	0	22.0	0.2	37.2	0.3	1.0	0.0	0	1	44.0	149.0	1	1	1	1	0	1	0.1
BY03714E	1151	4.47	>100	High	55	754963.301	6177642.97	75	4	10	13	11	0	3	14.3	6.4	45.8	11.8	0.0	0.7	0	0	57.0	193.0	1	1	1	1	0	1	0.2
BY-054A	1151	4.47	>100	High	55	747778.474	6175209.47	225	4	10	3	2	0	0	31.0	2.4	1.7	0.2	0.0	0.0	7	4	73.8	85.0	1	1	1	1	1	1	0.0
BY-054B	1151	4.47	>100	High	55	747263.978	6175028.75	194	3	7	6	1	0	0	28.2	0.7	6.0	0.1	0.0	0.0	1	1	88.0	92.0	1	1	1	1	1	1	0.0
BY-054C	1151	0.09	>100	Very low	55	746821.413	6174923.39	226	0	1	5	9	1	0	0.0	0.1	26.2	18.1	4.0	0.0	0	0	5.4	0.0	0	0	0	0	0	0	0.1
BY-054D	1151	0.46	>100	Low	55	747406.686	6175134.33	65	2	8	14	12	1	0	2.8	1.4	93.7	2.0	0.1	0.0	0	0	2.6	0.0	1	0	0	0	0	1	0.2
BY-037B	1151	0.46	>100	Low	55	755207.883	6177803.38	230	3	6	12	10	1	0	0.8	1.2	39.9	1.7	0.2	0.0	0	0	1.6	1.0	0	0	0	0	0	1	0.1
BY056C93	1151	0.90	>100	Moderate	55	746631.556	6174802.79	86	3	1	3	3	0	0	31.0	0.1	1.1	1.2	0.0	0.0	5	8	82.0	124.0	1	1	1	1	1	1	30.0
BY035D53	1151	4.89	>100	Very high	55	755907.861	6178040.4	66	2	5	10	7	1	0	31.0	6.4	4.2	6.4	0.2	0.0	3	1	93.6	44.0	1	1	1	1	1	1	0.0
BY-037A	1151	4.89	>100	Very high	55	755026.159	6177675.13	60	3	10	5	3	0	2	35.0	2.0	51.2	0.7	0.0	0.4	4	1	82.0	180.0	1	1	1	1	1	1	0.1
BY066AC48	1191	1.14	>100	Low	55	737968.83	6172159.37	13	1	0	1	0	0	0	5.0	0.0	0.2	0.0	0.0	0.0	2	1	2.0	2.0	0	0	0	1	1	0	0.0
BY06701F54	1191	1.14	>100	Low	55	737156.406	6171958.61	165	0	0	5	0	0	0	0.0	0.0	13.1	0.0	0.0	0.0	0	0	2.0	0.0	0	0	0	0	0	0	0.2
BY-057C	1256	1.14	>100	Low	55	745762.311	6174535.06	355	0	0	3	0	0	0	0.0	0.0	75.5	0.0	0.0	0.0	0	0	2.4	0.0	0	0	0	0	0	0	0.0
511MP001	1330	5.67	>100	High	55	736226.782	6171522.65	166	4	4	8	12	0	0	10.2	0.4	46.9	6.3	0.0	0.0	0	0	11.4	130.0	1	1	1	0	0	1	0.2
BY098822	1330	5.67	>100	High	55	717424.276	6164577.08	69	3	6	9	18	0	2	35.2	0.6	13.5	2.2	0.0	0.2	3	0	41.0	26.0	1	1	1	1	1	1	0.2
BY098822	1330	5.67	>100	High	55	717424.276	6164577.08	69	3	6	9	18	0	2	35.2	0.6	13.5	2.2	0.0	0.2	3	0	41.0	26.0	1	1	1	1	1	1	0.2
BY06703F9B	1330	5.67	>100	High	55	736043.763	6171495.28	125	3	1	4	8	0	0	26.0	0.1	3.2	0.8	0.0	0.0	2	0	15.6	33.0	1	1	1	1	1	1	0.6
BY100142	1330	10.03	<5, >100	Low	55	716833.61	6164304.39	43	0	0	13	4	0	0	0.0	0.0	54.3	0.4	0.0	0.0	0	0	4.0	12.0	0	0	0	0	0	0	0.4
BY1004EA	1330	10.03	<5, >100	Low	55	716697.562	6164320.18	50	1	0	1	3	0	0	40.0	0.0	0.5	0.3	0.0	0.0	5	0	43.0	7.0	0	0	0	0	1	0	0.1
BY-049E	1330	10.03	<5, >100	Low	55	749200.15	6175706.74	155	1	9	8	8	0	0	0.5	12.4	86.9	0.9	0.0	0.0	0	0	3.8	10.0	1	0	0	0	0	1	0.1
BY103-A	1330	5.67	>100	High	55	713235.577	6163457.05	185	3	1	9	8	1	2	21.2	0.1	54.1	0.8	0.1	0.6	0	0	23.6	12.0	1	1	1	1	0	1	0.2
511MP004	1330	5.67	>100	High	55	736473.066	6171659.01	201	1	0	14	11	0	0	30.0	0.0	31.1	11.0	0.0	0.0	1	1	4.0	5.0	1	1	1	0	1	1	5.1
BY099CD1	1330	5.67	>100	High	55	717057.928	6164558.12	210	2	3	6	7	0	1	40.0	11.3	2.7	3.7	0.0	0.2	2	0	45.0	23.0	1	1	1	1	1	1	2.5
BY0651CB	1330	17.79	<5, 25-100, >100	Very low	55	739473.447	6172222.76	270	0	0	1	1	0	0	0.0	0.0	5.0	0.1	0.0	0.0	0	0	3.0	0.0	0	0	0	0	0	0	5.1
BY065325	1330	17.79	<5, 25-100, >100	Very low	55	740089.279	6172645.09	246	0	0	3	2	0	0	0.0	0.0	6.1	0.2	0.0	0.0	0	0	11.0	0.0	0	0	0	0	0	0	2.0
BY0996BD	1330	5.67	>100	High	55	717184.547	6164461.41	60	4	1	5	9	0	0	24.5	0.3	55.9	1.4	0	0	0	0	40.6	29	1	1	0	1	1	1	0
BY0991C2	1330	5.67	>100	High	55	717268.547	6164538.41	300	3	0	5	11	0	1	25.1	0	81	2.4	0	0.1	4	5	50.4	68	1	1	1	1	1	1	0.2
BY098179	1330	5.67	>100	High	55	717477.546	6164563.41	135	3	6	7	18	0	1	17	0.8	13.3	3.8	0	0.1	2	3	49	56	1	1	1	1	1	1	0.2
BY0349F2	731	2.40	>100	Low	55	756602.549	6178257.41	224	0	3	9	11	2	1	0	0.4	42.8	2.2	40.2	0.1	0	0	6	0	0	0	0	0	0	0	0.1
BY03426A	335	0.61	>100	High	55	756893.549	6178356.41	270	0	0	11	9	0	0	0	0	81.7	5.9	0	0	0	0	2	0	0	0	0	0	0	0	0
BY03412A	335	0.61	>100	High	55	757519.549	6178492.41	246	0	0	10	5	0	0	0	0	78.6	5.1	0	0	0	0	4	0	0	0	0	0	0	0	1
BY05708A	1330	10.03	<5, >100	Low	55	746276.548	6174706.41	23	1	0	4	9	0	0	30	0	40.2	3.7	0	0	4	0	23	9	1	1	1	1	1	0	0
BY0448CD	1093	7.07	>100	High	55	752022.549	6176612.41	147	3	10	7	20	2	1	16	11.8	12.1	4.1	0.2	0.1	0	6	9	56	0	1	1	1	1	0	1	0.1
BY0447A5	280	1.54	>100	Moderate	55	752443.549	6176762.41	95	1	0	1	9	0	0	20	0	0.5	12.9	0	0	3	0	13.6	132	0	1	1	1	1	0	32.2
BY037F1D	1151	4.89	>100	Very high	55	755163.549	6177728.41	105	3	10	6	9	0	2	22	2.9	47.3	5.7	0	0.2	5	1	85	87	1	1	1	1	1	1	0
BY0340E3	731	3.58	>100	Moderate	55	756884.549	6178259.41	10	2	3	8	15	0	1	30	1.2	4.5	5.5	0	0.1	0	0	13	57.5	0	1	1	1	0	0	0.8
BY034745	731	2.40	>100	Low	55	757289.55	6178374.41	242	0	0	10	11	0	0	0	0	32	2.7	0	0	0	0	8	0	0	0	0	0	0	0	0
BY034D07	1151	0.46	>100	Low	55	755975.549	6177914.41	43	0	0	7	6	1	0	0	0	22.9	1.4	45	0	0	0	10	0	0	0	0	0	0	0	2.1
BY03470F	731	3.58	>100	Moderate	55	756950.549	6178269.41	64	1	1	8	17	0	1	40	0.1	41.6	2.3	0	0.1	1	0	26	142	0	0	1	0	1	1	0.5
BY034E63	731	2.40	>100	Low	55	756375.549	6178103.41	210	0	2	10	13	1	0	0	0.3	106.6	2.1	0.1	0	0	0	14	0	0	0	0	0	0	0	0.1
BY0362A1	1151	4.89	>100	Very high	55	755551.549	6177785.41	224	2	4	7	21	0	2	22	2.2	62.2	7.4	0	0.2	2	0	42	13	1	1	1	1	1	1	0
BY036053	1151	4.89	>100	Very high	55	755316.549	6177722.41	204	1	7	6	9	0	1	40	0.7	3.1	2.5	0	0.4	7	0	78	33	0	1	1	1	1	0	0
BY0369DB	1151	4.89	>100	Very high	55	755253.549	6177663.41	170	3	6	6	6	0	1	40.6	1.2	3	1	0	0.5	5	0	76	32	1	1	1	1	1	0	0

TG = Tree Group, SG = Shrub Group, GG = Grass & Grass-like Group, FG = Forb Group, EG = Fern Group, OG = Other Group, HBT = Hollow-bearing Tree, LC = Litter Cover, FLL = Length of fallen Logs (m), Tree Stem Size Class (diameter breast height of trunk in cm), 5-10, 10-20, 20-30, 30-50 and 50-80, Regen = Tree Stem Size Class <5 cm

Table A6- 3: Murrumbateman IBRA Subregion BAM plot function, structure and composition scores

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function									
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
YG007FE8	266	0.26	>100	Moderate	55	670158.034	6147920.84	359	1	0	2	5	0	0	40.0	0.0	40.2	1.1	0.0	0.0	1	9	35.8	100.0	0	1	1	1	1	0	0.6
BY12003FEA	280	1.68	25-100, >100	Moderate				230	0	0	8	3	0	0	0.0	0.0	50.3	0.4	0.0	0.0	1	1	0.0	4.0	0	0	0	0	1	0	3.0
BY1200488D	280	1.68	25-100, >100	Moderate	55	698651.82	6158028.13	240	0	6	5	5	0	0	0.0	0.6	75.4	2.3	0.0	0.0	0	0	0.4	0.0	0	0	0	0	0	0	0.0
YG02401	280	4.19	>100	Low	55	652683.713	6138545.71	47	0	0	7	12	1	0	0.0	0.0	66.4	1.2	0.2	0.0	0	0	6.0	3.0	0	0	0	0	0	0	0.4
YG026A72	280	4.19	>100	Low	55	649673.373	6138281.59	93	1	0	4	5	0	0	2.0	0.0	51.3	0.5	0.0	0.0	0	0	1.2	0.0	0	0	0	0	0	0	0.1
YG026MP1	278	0.05	>100	Very low	55	649919.727	6138169.69	253	0	0	12	6	0	0	0.0	0.0	55.3	1.1	0.0	0.0	0	0	0.6	0.0	0	0	0	0	0	0	0.1
BY115C0D	280	1.68	25-100, >100	Moderate	55	701211.354	6159248.68	101	1	4	9	4	1	0	5.0	45.2	48.3	3.1	0.1	0.0	0	0	3.0	2.0	0	0	1	0	0	0	0.5
YG02634E	280	1.68	25-100, >100	Moderate	55	649693.647	6138182.52	55	0	0	8	2	0	0	0.0	0.0	27.9	0.2	0.0	0.0	2	0	3.6	1.0	0	0	0	0	1	0	0.1
BY1155B8	280	1.90	25-100, >100	High	55	701364.983	6159303.07	220	2	6	10	3	1	1	8.1	55.7	17.2	0.3	0.2	0.1	1	0	31.0	30.0	0	1	1	1	1	1	0.2
YG02001	280	1.90	25-100, >100	High	55	656290.296	6139812.85	70	3	1	2	10	0	0	30.0	0.5	20.1	2.0	0.0	0.0	0	0	63.0	23.0	1	1	1	1	0	1	0.4
YG020259	280	1.90	25-100, >100	High	55	656708.504	6140035.29	152	3	0	8	3	0	0	37.0	0.0	36.6	0.7	0.0	0.0	3	2	17.0	30.0	0	1	1	1	1	1	0.0
YG020D4B	280	1.90	25-100, >100	High	55	656544.928	6139921.28	282	2	2	6	5	0	1	35.0	0.2	13.9	0.5	0.0	0.1	3	1	16.6	13.0	1	1	1	1	1	1	0.0
BY103E46	283	0.23	>100	High	55	710334.056	6162900.06	28	3	0	4	7	0	0	39.0	0.0	17.2	0.7	0.0	0.0	7	0	51.0	11.0	0	1	1	1	1	0	0.6
BY10369E	283	0.12	>100	Moderate	55	709566.544	6162602.38	140	4	2	11	14	0	1	17.0	0.9	25.6	1.9	0.0	0.1	3	0	53.0	14.0	1	1	1	1	1	1	0.2
BY111AB5	283	1.23	>100	Very high	55	704661.241	6160943.87	160	2	3	7	4	0	0	30.0	20.1	34.1	1.1	0.0	0.0	3	0	22.4	10.0	0	0	0	0	1	0	3.2
BY111E49	283	1.23	>100	Very high	55	705502.314	6161268.83	42	3	4	4	13	0	0	35.0	36.5	53.5	4.5	0.0	0.0	2	0	35.0	16.0	1	1	1	1	1	1	0.1
YG0138B4	287	0.14	>100	Very low	55	664304.403	6143560.76	158	0	0	8	2	1	0	0.0	0.0	16.9	1.2	0.1	0.0	0	0	12.8	16.0	0	0	0	0	0	0	0.0
BY10345E	283	0.12	>100	Moderate	55	709511.893	6162554.14	359	2	0	5	8	0	0	11.0	0.0	5.8	10.8	0.0	0.0	4	0	37.4	1.0	0	0	0	1	1	0	3.1
BY1060BE	287	0.67	<5, >100	Low	55	709203.228	6162510.25	173	1	0	5	2	0	0	10.0	0.0	10.9	1.5	0.0	0.0	6	1	22.0	7.0	0	0	1	1	1	1	20.0
YG0130F0	287	0.67	<5, >100	Low	55	664430.795	6143403.76	265	0	0	4	3	0	0	0.0	0.0	47.2	0.3	0.0	0.0	1	2	7.0	10.0	0	0	0	0	1	0	20.1
YG013BA5	287	0.67	<5, >100	Low	55	664942.48	6143857.77	78	0	0	3	2	0	0	0.0	0.0	55.1	10.0	0.0	0.0	0	0	1.0	1.0	0	0	0	0	0	0	1.7
YG01331A	287	0.43	>100	High	55	664817.706	6143638.74	168	1	0	5	9	0	0	12.0	0.0	9.3	6.0	0.0	0.0	1	1	24.6	85.0	0	0	0	0	0	0	0.0
YG013C04	287	0.43	>100	High	55	664807.784	6143784.19	200	1	0	5	8	0	0	50.0	0.0	35.2	17.5	0.0	0.0	4	2	24.4	74.0	0	0	1	1	1	0	0.8
BY142B2A	322	0.01	>100	Very low	55	681929.418	6150680.18	148	0	0	4	4	0	0	0.0	0.0	71.1	0.4	0.0	0.0	0	0	3.2	2.0	0	0	0	0	0	0	0.0
BY1430A1	322	0.52	>100	High	55	681735.17	6150815.99	275	2	7	9	9	0	0	25.1	8.4	60.6	2.2	0.0	0.0	4	1	72.6	27.0	1	1	1	1	1	1	0.0
BY1301923A	349	0.84	5-25, >100	Low	55	685084.591	6151181.11	2	0	0	10	5	0	0	0.0	0.0	42.7	0.5	0.0	0.0	0	0	0.4	0.0	0	0	0	0	0	0	0
BY13019DA7	349	0.84	5-25, >100	Low	55	684567.369	6150597.25	351	0	0	9	7	0	0	0.0	0.0	48.1	0.7	0.0	0.0	0	0	6.0	28.0	0	0	0	0	0	0	0.0
BY1301916A	349	1.69	5-25, >100	Moderate	55	684417.2	6150508.67	271	2	3	7	10	0	2	6.0	0.3	26.1	1.2	0.0	0.3	0	0	54.0	202.0	1	1	1	1	0	1	0.0
BY1301948C	349	1.69	5-25, >100	Moderate	55	684500.454	6150703.9	251	2	2	9	9	1	0	6.0	4.1	68.6	0.9	0.1	0.0	0	0	50.0	172.0	1	1	1	1	0	1	0.0
BY1301709A	349	1.69	5-25, >100	Moderate	55	685774.066	6151887.18	299	1	6	15	10	1	0	2.0	1.9	27.8	1.1	0.1	0.0	0	0	1.0	16.0	0	0	0	0	0	1	0.0
BY13017B1B	349	1.69	5-25, >100	Moderate	55	686097.359	6152099.15	46	2	6	8	9	0	0	2.8	7.6	72.4	8.8	0.0	0.0	0	0	7.0	0.0	1	1	0	0	0	1	0.0
BY13017C4F	349	1.69	5-25, >100	Moderate	55	685852.353	6151946.79	344	1	5	14	9	0	0	0.2	0.6	52.7	0.9	0.0	0.0	0	0	1.6	1.0	1	0	0	0	0	0	0.0
BY13018553	349	1.69	5-25, >100	Moderate	55	685958.929	6151997.48	156	2	7	11	10	1	0	0.7	0.7	46.3	1.1	0.1	0.0	0	0	3.6	15.0	1	0	0	0	0	1	0.0
BY13017BFB	349	1.69	5-25, >100	Moderate	55	686170.479	6152151.01	233	1	9	7	11	0	1	5.0	2.4	52.7	2.0	0.0	0.1	0	0	36.2	2.0	1	1	0	1	0	1	0.0
BY1301723F	349	0.40	>100	High	55	686036.281	6152033.36	306	3	9	15	12	0	1	30.1	1.3	38.9	1.6	0.0	0.1	1	0	55.0	50.0	1	1	1	1	1	1	0.0
BY115ABC	280	1.90	>100	High	55	701380.954	6159359.54	293	1	11	8	2	0	1	5.0	80.9	2.8	4.0	0.0	2.0	1	0	51.0	28.0	1	1	1	1	1	1	5.1
BY13018AB5	349	0.40	>100	High	55	686011.849	6152110.01	193	3	11	8	9	0	0	12.1	2.4	23.5	0.9	0.0	0.0	1	0	55.0	28.0	1	0	1	1	1	1	0.0
BY13017EE2	349	0.40	>100	High	55	686068.918	6152123.39	207	4	13	5	6	0	2	36.1	12.7	71.9	0.9	0.0	0.3	3	0	47.0	26.0	1	1	1	1	1	1	0.0
YG01909F	351	0.33	>100	Very low	55	658059.093	6140678.37	332	0	1	9	3	1	0	0.0	20.0	62.2	2.1	0.1	0.0	0	0	0.0	0.0	0	0	0	0	0	0	0.0
YG0172F3	351	0.45	>100	Low	55	660896.523	6141632.72	33	1	0	10	8	0	0	5.0	0.0	63.6	1.3	0.0	0.0	1	0	2.6	15.0	0	0	0	0	1	0	0.3
YG0172F3	351	0.45	>100	Low	55	660896.523	6141632.72	13	1	0	4	3	0	0	15.0	0.0	25.5	15.2	0.0	0.0	2	2	7.0	38.0	0	0	0	0	1	0	0.1
YG01933B	351	2.73	>100	Moderate	55	658251.343	6140599.98	315	2	1	6	4	1	0	35.0	60.0	1.6	0.4	0.1	0.0	1	1	84.0	24.0	1	1	1	1	1	0	0.0
YG01601	351	2.73	>100	Moderate	55	661907.777	6141991.7	333	2	0	8	8	1	0	15.0	0.0	6.5	3.2	0.1	0.0	3	0	38.0	45.0	1	1	0	1	1	1	1.7

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function									
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
BY11301ADB	1330	33.28	>100	Very low	55	702473.774	6159835.29	336	0	3	9	7	1	0	0.0	1.2	101.3	0.7	0.2	0.0	0	0	8.0	27.0	0	0	0	0	0	0	2.0
YG01407E	352	1.66	>100	Very low	55	663809.955	6143081.93	277	0	1	2	1	0	0	0.0	20.0	50.1	0.1	0.0	0.0	0	0	4.4	21.0	0	0	0	0	0	0	0.2
YG014754	352	0.38	>100	Low	55	663220.601	6142914.04	180	1	0	6	2	0	0	5.0	0.0	72.5	0.2	0.0	0.0	1	1	0.0	0.0	0	0	0	0	1	0	0.6
YG013197	352	1.43	>100	Moderate	55	664219.801	6143375.29	299	2	0	4	6	0	1	20.1	0.0	27.1	13.7	0.0	0.5	1	1	21.6	48.0	0	0	0	0	0	0	10.1
YG014FF0	352	1.43	>100	Moderate	55	663044.06	6142791.45	211	1	0	6	1	0	0	50.0	0.0	66.6	0.2	0.0	0.0	2	2	6.4	6.0	0	0	0	0	1	0	0.0
BY13010FC9	731	0.47	>100	High	55	689898.648	6154090.4	1	2	0	6	3	0	0	55.0	0.0	56.7	0.3	0.0	0.0	3	2	64.0	35.0	1	1	1	1	1	0	0.0
BY13011EC5	731	0.47	>100	High	55	689342.101	6153759.34	76	1	9	12	6	0	2	65.0	1.1	15.6	0.7	0.0	0.3	0	0	89.6	52.0	1	1	1	1	0	1	0.0
BY13001795	1093	2.93	>100	Moderate	55	690340.288	6154246.18	87	2	6	7	3	0	0	21.0	2.7	37.4	0.4	0.0	0.0	0	0	87.0	4.0	1	1	1	1	0	1	0.0
BY13012976	1330	12.31	<5, >100	Low	55	689049.156	6153676.04	104	1	5	14	11	0	0	0.1	1.1	59.3	1.1	0.0	0.0	0	0	7.2	2.0	0	0	0	0	0	0	0.1
BY1301202	1093	0.80	>100	Low	55	688925.71	6153551.46	236	2	6	11	11	0	1	5.2	11.1	94.1	2.4	0.0	0.1	1	0	29.2	30.0	0	1	1	0	1	0	5.0
BY13012678	1093	0.80	>100	Low	55	688676.847	6153420.34	219	3	3	14	10	1	1	5.2	20.3	78.5	1.1	0.1	0.1	0	0	6.4	14.0	1	0	0	0	0	0	0.0
BY1301503	1093	0.80	>100	Low	55	686875.355	6152505.78	335	2	13	8	14	1	3	0.2	20.9	43.3	2.2	0.2	25.2	0	0	4.0	0.0	0	0	0	0	0	1	0.1
BY1301695A	1093	0.80	>100	Low	55	686319.991	6152223.63	232	0	4	11	9	1	0	0.0	1.2	54.7	1.3	0.1	0.0	0	0	3.0	0.0	0	0	0	0	0	0	5.1
BY1301501	1093	2.93	>100	Moderate	55	686977.553	6152554.56	335	3	7	7	12	0	1	51.0	0.7	1.6	1.4	0.0	0.1	3	0	94.4	52.0	1	1	1	1	1	0	0.0
BY1301502	1093	2.93	>100	Moderate	55	686768.247	6152457.09	45	1	10	4	8	0	1	10.0	1.7	20.3	1.7	0.0	0.1	1	1	71.0	5.0	1	1	1	1	1	1	0.0
6699ABB2	1093	5.94	>100	High	55	704171.032	6160648.74	240	3	10	6	9	0	1	17.0	71.3	1.1	1.0	0.0	0.1	42	0	59.0	1.0	1	1	1	1	0	1	0.0
BY1110C5	1093	5.94	>100	High	55	704430.678	6160778.51	221	4	9	8	4	0	1	19.1	47.8	3.6	2.2	0.0	0.1	0	0	87.0	2.0	1	1	1	1	0	1	0.0
BY130163BC	1093	3.14	>100	Very high	55	686644.147	6152412.51	4	2	10	5	6	0	1	25.0	4.3	51.1	1.5	0.0	5.0	1	0	63.0	25.0	1	1	1	1	1	1	0.0
13009DEF	1093	5.94	>100	High	55	690843.383	6154469.63	30	3	5	7	6	0	0	25.5	16.3	62.4	0.6	0.0	0.0	2	2	54.0	32.0	1	1	1	1	1	1	0.0
BY13009E6B	1093	5.94	>100	High	55	691201.155	6154662.98	60	3	4	6	4	0	0	45.0	0.4	21.4	0.4	0.0	0.0	3	16	78.0	175.0	1	1	1	1	1	1	0.0
BY1301201	1093	3.14	>100	Very high	55	687929.037	6153079.97	6	2	9	3	6	0	1	31.0	1.1	1.0	1.1	0.0	0.2	7	1	84.0	15.0	1	1	1	1	1	0	0.0
BY130126C4	1093	3.14	>100	Very high	55	688395.162	6153339.37	292	2	7	7	4	0	1	50.1	1.6	1.1	0.5	0.0	0.1	2	0	84.6	52.0	1	1	1	1	1	0	0.0
BY13012ACE	1093	3.14	>100	Very high	55	688200.649	6153243.16	142	2	8	6	5	0	0	60.1	0.8	3.4	0.9	0.0	0.0	0	0	78.8	116.0	1	1	1	1	0	1	0.0
BY11136B	1093	3.14	>100	Very high	55	704796.518	6160956.82	238	4	8	6	6	0	0	25.1	81.6	6.3	1.9	0.0	0.0	1	0	55.0	5.0	1	1	1	1	1	1	0.0
BY111515	1093	3.14	>100	Very high	55	705291.594	6161207.1	316	3	6	7	7	0	0	28.0	21.9	11.4	2.0	0.0	0.0	2	0	70.0	12.0	1	1	1	1	1	1	0.0
YG0202FD	1256	0.19	>100	Low	55	656726.597	6139938.85	242	0	0	4	1	0	0	0.0	0.0	92.2	0.1	0.0	0.0	0	0	25.6	0.0	0	0	0	0	0	0	0.0
BY11301346	1330	33.28	>100	Very low	55	702367.282	6159795.27	59	0	3	10	6	1	1	0.0	2.8	80.2	0.8	0.1	0.1	0	0	3.0	8.0	0	0	0	0	0	0	0.2
BY122021B6	1330	33.28	>100	Very low	55	697967.104	6157687.59	210	0	0	6	6	0	1	0.0	0.0	60.5	5.5	0.0	0.1	0	0	0.0	0.0	0	0	0	0	0	0	1.0
BY130193A7	1330	12.31	>100	Low	55	683305.541	6150370.09	319	1	2	15	7	0	1	0.5	0.2	41.0	0.8	0.0	0.1	0	0	3.2	32.0	0	0	0	0	0	1	0.1
BY115016	1330	12.31	>100	Low	55	701545.688	6159424.78	72	0	1	12	3	0	0	0.0	10.0	39.0	0.4	0.0	0.0	0	0	0.0	0.0	0	0	0	0	0	0	0.1
BY115602	1330	12.31	>100	Low	55	701473.028	6159426.78	143	0	2	9	3	0	0	0.0	55.0	43.0	1.2	0.0	0.0	0	0	0.0	0.0	0	0	0	0	0	0	0.5
BY13011940	1330	5.65	<5, >100	Moderate	55	689716.08	6153965.72	141	2	4	10	10	0	1	4.0	0.8	46.8	1.0	0.0	0.1	0	0	27.0	20.0	1	1	1	1	0	1	0.0
BY13019B24	1330	5.65	<5, >100	Moderate	55	682682.531	6150374.16	248	1	1	14	5	1	2	10.0	0.1	38.8	0.5	0.1	0.2	0	0	15.2	18.0	0	1	0	0	0	0	0.2
6699ABB3	1330	5.65	<5, >100	Moderate	55	702888.841	6160050.86	245	2	1	3	3	0	0	15.0	0.1	60.1	0.4	0.0	0.0	29	0	10.0	0.0	1	1	1	1	1	0	0.2
BY113010D2	1330	5.65	<5, >100	Moderate	55	702204.834	6159756.6	245	2	4	8	6	1	0	12.0	50.4	11.9	0.8	0.1	0.0	0	0	16.0	8.0	1	1	0	0	0	1	0.0
BY113010D9	1330	5.65	<5, >100	Moderate	55	702156.802	6159692.74	98	1	3	6	7	1	2	20.0	60.3	7.4	0.8	0.1	0.6	0	0	33.0	6.0	1	1	1	0	0	1	0.1
BY13001091	1330	5.65	<5, >100	Moderate	55	693573.311	6155769.41	15	1	0	7	3	0	0	2.0	0.0	61.5	1.2	0.0	0.0	2	2	13.2	16.0	0	0	0	1	1	0	5.0
BY13019757	1330	5.65	<5, >100	Moderate	55	683762.771	6150354.8	308	2	1	11	6	0	0	1.5	0.1	87.5	0.6	0.0	0.0	0	0	22.0	38.0	0	0	1	0	0	0	0.2
BY1117D0	1330	1.46	>100	High	55	703845.825	6160499.13	210	2	6	12	16	1	1	23.0	9.3	19.6	2.4	0.2	0.2	0	1	35.0	7.0	1	1	1	1	0	1	0.2
BY128F52	1330	1.46	>100	High	55	696174.656	6156971.39	350	4	0	4	3	0	0	45.2	0.0	31.1	0.7	0.0	0.0	6	2	45.0	58.0	1	1	1	1	1	1	5.0
BY1300903B	1093	1.46	>100	High	55	690775.67	6154419.2	90	3	5	11	6	0	0	67.0	2.6	59.7	1.5	0.0	0.0	1	2	0.0	40.0	1	1	1	1	1	1	0.0
BY143551	1330	1.46	>100	High	55	681410.335	6150932.3	70	2	2	7	5	0	1	35.2	6.0	38.2	0.5	0.0	0.5	2	0	33.0	2.0	1	1	0	1	0	1	0.0
6699ABB1	1330	2.13	>100	Very high	55	705048.525	6161065.96	41	3	5	10	7	0	1	32.0	27.3	9.2	12.9	0.0	0.1	84	1	84.6	1.0	1	1	1	1	1	1	0.0
BY11154F	1330	2.13	>100	Very high	55	705701.276	6161386.91	205	4	5	7	11	0	0	35.5	21.0	8.8	10.3	0.0	0.0	2	0	66.0	18.0	1	1	1	1	1	1	0.0
by130029A6	1330	12.31	<5, >100	Low	55	693135.675	6155528.61	86	4	0	2	1	0	0	38.0	0.0	30.2	0.1	0.0	0.0	4	4	1.6	83.0	0	1	1	1	1	0	15.0

TG = Tree Group, SG = Shrub Group, GG = Grass & Grass-like Group, FG = Forb Group, EG = Fern Group, OG = Other Group, HBT = Hollow-bearing Tree, LC = Litter Cover, FLL = Length of fallen Logs (m), Tree Stem Size Class (diameter breast height of trunk in cm), 5-10, 10-20, 20-30, 30-50 and 50-80, Regen = Tree Stem Size Class <5 cm

Table A6- 4: Inland Slopes IBRA Subregion BAM plot function, structure and composition scores

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
YG035B13	5	0.77	>100	Low	55	639893.982	6135647.61	160	2	0	5	2	0	0	2	0	39.1	0.2	0	0	0	0	6.8	17	0	0	0	1	0	0	0.2
WM0248f6	5	1.82	>100	High	55	544900.918	6096188.25	120	1	0	4	3	0	0	40	0	31.2	0.3	0	0	3	3	66	61	0	0	1	1	1	0	0.1
WM0248F6	5	1.82	>100	High	55	544900.918	6096188.25	49	1	0	1	1	0	0	10	0	5	2	0	0	2	0	5	44	0	1	1	1	1	1	0.1
6699ABB5	266	7.64	>100	High	55	632838.119	6134139.65	45	1	0	3	5	0	0	25	0	15.5	10.3	0	0	14	9	15	32	0	1	1	1	1	0	0.2
YG037-1	266	7.64	>100	High	55	633256.405	6134457.54	178	2	0	7	5	0	0	35	0	53.1	2.1	0	0	2	1	19	25	0	0	1	1	1	1	0.3
YG007C9C	266	7.64	>100	High	55	670183.657	6147982.91	69	1	0	5	4	0	1	70	0	73.7	0.5	0	0.2	1		11.4	80	0	1	1	1	1	1	0
YG040-1	266	7.64	>100	High	55	631921.478	6133885.58	155	1	0	7	2	0	0	30	0	98.5	0.3	0	0	2	0	20.6	42	0	0	0	0	1	0	0.7
YG040-2	266	7.64	>100	High	55	630856.117	6133413.03	127	1	0	9	3	0	1	40	0	86.8	0.8	0	0.2	5	2	22	22	0	0	1	1	1	0	2.2
YG040-3	266	7.64	>100	High	55	631120.081	6133502.92	105	1	0	5	4	0	1	30	0	43.2	0.6	0	0.1	3	1	61	32	0	0	0	1	1	0	0.3
YG040-4	266	7.64	>100	High	55	631388.699	6133643.46	134	2	0	4	6	0	1	30.2	0	62.2	1	0	0.2	1	0	33	22	0	0	0	1	1	0	0.7
YG-042A	266	7.64	>100	High	55	629440.02	6132715.73	344	1	0	3	2	0	0	10	0	50	1.1	0	0	1	0	21	3	0	0	0	0	1	0	0.1
YG037B35	266	0.77	>100	Low	55	633470.207	6134399.16	275	0	0	9	3	1	1	0	0	105.3	0.5	0.1	0.2	0	0	1.6	1	0	0	0	0	0	0	13
WM05731A	268	6.07	>100	High	55	578382.196	6087020.73	265	2	7	11	13	1	2	40.2	1.7	31	17.2	1	0.3	0	0	24	32	1	1	1	1	0	1	0.3
WM047180	268	6.07	>100	High	55	566437.259	6089360.93	36	4	5	12	4	1	0	60	1.7	12.9	1	0.3	0	1	0	43	78	1	1	1	1	1	1	0
WM04792A	268	6.07	>100	High	55	566630.608	6089358.76	142	3	4	12	6	1	0	53	0.9	27.4	2.6	0.3	0	0	1	34	60	1	0	1	1	0	1	0
WM051799	268	10.65	<5, >100	Low	55	573162.364	6087363.31	317	3	0	14	3	0	0	45	0	91.5	1.4	0	0	1	0	30	4	0	1	1	1	1	0	4.2
WM053A1A	268	10.65	<5, >100	Low	55	574710.698	6087217.45	290	0	0	13	3	0	0	0	0	89.3	0.5	0	0	0	0	31	4	0	0	0	0	0	0	6
WM047D5B	268	6.07	>100	High	55	565947.781	6089538.51	98	3	0	15	10	1	2	48	0	15.6	1.7	0.1	0.3	2	2	28	114	1	1	0	1	1	1	0.6
WM053FFF	268	6.07	>100	High	55	575805.717	6087154.26	7	3	3	7	10	1	1	30.2	0.4	16.9	66.1	0.1	0.3	0	0	29	82	1	1	1	1	0	1	1.5
WM0571B0	268	6.07	>100	High	55	577326.549	6087048.97	336	3	6	5	6	1	0	4.5	2.5	30.7	3.3	0.1	0	0	0	8.6	18	1	1	1	1	0	0	0
WM053CE7	268	6.07	>100	High	55	575450.72	6087119.6	122	3	1	4	10	1	0	6	0.3	33	4	1	0	0	0	8	38	1	1	1	0	0	0	0
WM05303E	268	10.65	<5, >100	Low	55	575294.132	6087237.85	286	0	0	6	1	0	0	0	0	120.3	0.2	0	0	0	0	48	0	0	0	0	0	0	0	5.5
WM037-01	277	10.33	<5, 5-25, >100	Low	55	557218.239	6092019.82	37	2	0	5	3	0	0	35	0	12.6	1.2	0	0	2	1	61	20	0	0	0	1	1	0	1.2
WM046550	277	2.29	>100	Moderate	55	563970.157	6090101.12	68	1	0	2	1	0	0	30	0	2.2	0.1	0	0	4	1	81	12	0	0	0	0	1	0	0.6
YG005A75	277	10.33	<5, 5-25, >100	Low	55	670364.36	6148146.32	148	1	0	0	2	0	0	1	0	0	0.3	0	0	0	0	15.2	2	0	0	0	0	0	0	0.1
YG030881	277	10.33	<5, 5-25, >100	Low	55	644360.728	6137524.56	53	0	0	11	2	0	0	0	0	74.3	0.2	0	0	0	0	1.8	0	0	0	0	0	0	0	1.2
YG030B22	277	10.33	<5, 5-25, >100	Low	55	644636.685	6137598.43	215	0	0	15	7	0	0	0	0	96.1	0.7	0	0	0	0	1	0	0	0	0	0	0	0	0.5
YG030ED6	277	10.33	<5, 5-25, >100	Low	55	644544.159	6137513.94	340	0	0	13	7	1	0	0	0	35.8	0.7	0.1	0	0	0	20.8	10	0	0	0	0	0	0	0.3
YG-042B	277	10.33	<5, 5-25, >100	Low	55	629097.792	6131909.08	277	1	0	2	3	0	0	10	0	5.1	2.2	0	0	1	0	10	0	0	0	0	0	1	0	0
WM045964	277	4.1	>100	High	55	562500.405	6090539.59	220	1	0	9	5	0	0	25	0	33.9	1	0	0	1	1	70	5	1	1	1	0	1	0	0.1
BY145C9B	277	4.1	>100	High	55	678801.676	6151280.74	287	1	0	2	2	0	0	10	0	50.5	0.2	0	0	5	1	63	0	0	0	0	0	1	0	0.1
YG030560	277	2.29	>100	Moderate	55	644144.932	6137470.21	260	2	0	9	7	0	0	12.1	0	58.3	0.7	0	0	1	0	20.6	30	1	0	0	1	1	1	3.5
YG0309D5	277	2.29	>100	Moderate	55	644481.198	6137496.32	354	3	0	9	8	0	1	21.1	0	44.5	0.8	0	0.1	2	0	43.2	16	0	0	0	1	1	1	2
YG030MP2	277	2.29	>100	Moderate	55	644181.576	6137477.57	236	3	1	4	8	1	0	13	1	27.6	1.1	0.1	0	3	0	58	49	0	0	1	1	1	0	1.7
WM045F7E	277	4.1	>100	High	55	562715.169	6090457.93	347	1	0	11	8	0	3	15	0	20.9	0.9	0	0.4	2	1	26	2	0	0	1	1	1	0	1.4
YG001693	277	53.34	<5, 5-25, >100	Very low	55	672355.822	6149521.61	220	0	0	8	5	0	0	0	0	81.8	6.2	0	0	0	0	0.2	0	0	0	0	0	0	0	0.2
YG001AA0	277	53.34	<5, 5-25, >100	Very low	55	671472.976	6148918.93	36	0	0	5	1	0	0	0	0	3.8	0.2	0	0	0	0	0.2	0	0	0	0	0	0	0	11.1
YG0056F6	277	53.34	<5, 5-25, >100	Very low	55	670648.627	6148227.03	241	1	0	1	4	0	0	15	0	0.2	2.8	0	0	1	1	6.4	40	0	0	0	0	1	0	0
WM05392C	277	53.34	<5, 5-25, >100	Very low	55	574307.855	6087305.65	135	1	0	8	2	1	0	40	0	55.9	0.4	0.1	0	1	1	11.4	6	0	0	0	0	1	0	0.6

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
YG-042F	277	53.34	<5, 5-25, >100	Very low	55	628434.087	6130356.46	355	1	0	1	3	0	0	5	0	5	6.1	0	0	1	1	11	0	0	0	0	1	0	0	0
YG-042C	278	4.40	<5,>100	Moderate	55	628164.605	6129523.91	233	0	0	3	4	0	0	0	0	15	0.4	0	0	2	0	10	1	0	0	0	0	1	0	10
BY14520E	278	2.20	>100	High	55	679776.955	6151135.13	264	1	0	4	5	0	0	5	0	47	0.6	0	0	1	1	2.2	1	0	0	0	0	1	0	0.4
BY14562F	278	2.20	>100	High	55	678450.144	6151336.58	7	2	0	11	4	0	0	25	0	72.5	0.4	0	0	7	4	52	5	0	0	1	1	0	0	0.1
BY1459EC	278	2.20	>100	High	55	679710.718	6151253.97	266	3	0	6	10	0	0	17	0	10.7	1.4	0	0	0	0	24.4	13	1	1	1	1	0	1	0
YG0011A7	278	6.99	<5, 5-25, >100	Very low	55	671436.136	6149011.6	57	0	0	8	2	0	0	0	0	17.9	0.6	0	0	0	0	0.4	0	0	0	0	0	0	0	0.3
YG001B70	278	6.99	<5, 5-25, >100	Very low	55	671731.677	6149186.05	239	0	0	8	4	0	0	0	0	24.7	5.4	0	0	0	0	0	0	0	0	0	0	0	0	20.1
YG001D0C	278	6.99	<5, 5-25, >100	Very low	55	671955.242	6149370.8	196	0	0	9	4	0	0	0	0	42.2	1.3	0	0	0	0	0.4	0	0	0	0	0	0	0	2.5
YG001DF2	278	6.99	<5, 5-25, >100	Very low	55	672121.298	6149490.48	214	1	0	3	6	0	0	2	0	2.1	1.4	0	0	1	1	2.8	0	0	0	0	0	1	0	10
YG001E6E	278	6.99	<5, 5-25, >100	Very low	55	672134.82	6149347.71	9	0	0	6	2	0	0	0	0	61.4	0.3	0	0	0	0	0	0	0	0	0	0	0	0	20
MA098668	280	8.94	25-100, >100	Moderate	55	625472.183	6118972.29	129	1	0	1	3	0	0	50	0	1	3	0	0	3	0	4.8	20	0	0	0	0	1	0	4
MA079A30	280	8.94	25-100, >100	Moderate	55	619758.629	6104035.17	25	1	0	2	2	0	0	0.5	0	30	0.2	0	0	2	0	0	44	0	0	0	0	1	0	0.5
MA079E17	280	8.94	25-100, >100	Moderate	55	619553.777	6103872.79	141	2	0	6	5	0	0	28	0	45.4	0.5	0	0	3	1	25	15	0	0	0	0	1	0	0.7
MA-087A	280	14.56	25-100, >100	High	55	621468.799	6104872.69	190	1	0	6	5	0	0	30	0	70.2	5.4	0	0	2	1	73	93	0	0	1	1	1	0	0.2
MA-086A	280	14.56	25-100, >100	High	55	621408.661	6104568.38	270	1	0	4	3	0	0	25	0	35	1.2	0	0	2	3	39.6	102	0	0	1	1	1	0	0
MA05903241	280	14.56	25-100, >100	High	55	608263.745	6099400.57	180	2	0	3	5	1	0	30	0	80.1	0.5	0.1	0	4	2	5.2	52	0	0	0	0	1	0	0
MA05903706	280	14.56	25-100, >100	High	55	608475.681	6099637.93	62	1	0	2	3	0	0	15	0	40.5	0.7	0	0	2	1	10.4	21	0	0	0	0	1	0	0
MA05905-01	280	14.56	25-100, >100	High	55	608163.479	6099512.68	201	3	0	5	10	0	1	55	0	9.4	1.1	0	0.2	0	2	64	75	0	1	1	1	0	0	1
MA05903-01	280	4.81	25-100, >100	Very low	55	608904.561	6099879.94	295	0	0	3	2	0	0	0	0	37	0.6	0	0	0	0	3.6	1	0	0	0	0	0	0	20.2
BY15469A	287	0.83	>100	Moderate	55	675263.85	6150805.61	46	2	0	5	3	0	0	25	0	23.2	10.3	0	0	3	3	22.6	6	0	0	0	1	1	0	0
WM058E47	287	0.06	>100	Low	55	579648.534	6086874.43	260	1	8	0	6	0	0	3	0.8	0	2.6	0	0	2	0	54	13	0	1	1	1	1	1	22.3
YG035805	290	2.06	<5, >100	Low	55	638272.715	6135063.52	79	2	1	1	2	0	0	17	0.1	5	0.2	0	0	3	3	7.6	129	0	1	1	1	1	0	0
WM058DCC	290	2.06	<5, >100	Low	55	578756.008	6086850.43	97	1	0	6	4	0	0	2	0	8.6	4.1	0	0	0	0	0.6	2	0	1	0	0	0	0	25.5
WM0580FD	290	2.06	<5, >100	Low	55	578824.534	6086757.43	268	0	3	0	9	0	0	0	0.3	0	64.9	0	0	0	0	35	0	0	0	0	0	0	0	2
WM057IS2	290	1.31	>100	High	55	578518.229	6086957.24	175	5	9	7	10	1	1	50.5	2.7	33.9	8.4	0.3	0.2	1	1	23.2	37	1	1	1	1	1	1	0
WM059CE5	290	2.10	>100	Very low	55	578738.11	6087010.61	57	2	3	6	6	1	0	0.2	0.3	51.8	0.7	0.2	0	0	0	3.2	0	0	0	0	0	0	1	5
WM0598AD	290	2.10	>100	Very low	55	579105.438	6087011.01	346	0	0	4	2	0	0	0	0	35.5	0.2	0	0	0	0	0	2	0	0	0	0	0	0	0.1
WM0581E8	297	0.47	>100	Low	55	579902.087	6086800.39	53	1	1	6	1	0	0	5	0.1	22.2	10	0	0	0	0	5.4	3	1	1	1	0	0	1	0.1
WM058EAA	297	0.47	>100	Low	55	580342.114	6086792.83	69	0	1	9	5	0	0	0	0.1	55.4	0.5	0	0	0	0	3.8	0	0	0	0	0	0	0	10.2
WM058F1D	297	0.47	>100	Low	55	580191.219	6086803.55	61	1	0	6	2	0	0	7	0	55.2	3.1	0	0	1	0	6.4	0	0	0	0	0	1	0	0
WM05852D	297	0.59	>100	Moderate	55	579297.918	6086897.89	46	1	4	5	15	0	0	30	7.4	15.8	3.5	0	0	1	2	11	5	1	1	1	1	1	1	0.3
WM05881E	297	0.59	>100	Moderate	55	580127.924	6086782.55	261	1	2	3	6	0	0	15	1.1	5.3	2.6	0	0	3	1	76	14	1	1	1	1	0	1	0
MA-089C	301	0.63	>100	Low	55	622198.219	6108268.74	255	0	1	5	2	0	0	0	10	20.1	0.6	0	0	0	0	5	28	0	0	0	0	0	0	0.2
MA-089B	301	0.37	>100	High	55	622049.034	6107710.94	90	1	1	3	4	0	1	5	25	50.2	0.4	0	5	2	0	20	24	0	1	1	1	1	0	0.2
MA089A15	301	0.37	>100	High	55	622091.812	6107986.93	35	2	4	16	13	1	3	33	1.1	14.5	3.3	0.5	20.5	0	0	3.2	6	0	1	1	1	0	0	1.2
MA-014A5	301	0.37	>100	High	55	622193.532	6108359.4	270	1	1	5	6	0	0	5	35	45.3	0.6	0	0	0	0	22.2	2	1	1	1	0	0	1	0
MA089714	266	22.93	>100	Low	55	622025.607	6107257.32	7	0	1	6	3	1	0	0	1	77.6	0.4	0.1	0	0	0	1.4	0	0	0	0	0	0	0	1.2
MA-014A4	301	0.63	>100	Low	55	622263.192	6108608.88	350	0	1	5	5	0	1	0	0.2	15	1	0	0.5	0	0	0	0	0	0	0	0	0	0	0.2
MA089096	301	0.42	>100	Moderate	55	622025.924	6107618.11	260	0	1	4	4	1	0	0	10	30.5	0.5	0.1	0	0	0	2.8	17	0	0	0	0	0	0	2.6

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
MA059030D1	314	11.32	>100	Moderate	55	607776.866	6099197.15	102	1	0	5	1	0	0	25	0	62	0.1	0	0	2	2	3	65	0	0	0	0	1	0	0
MA059032E2	314	11.32	>100	Moderate	55	607560.756	6098986.56	5	1	0	8	6	0	1	30	0	93.5	0.7	0	0.1	2	2	6.8	89	0	0	0	0	1	0	0
MA0216BB	314	11.32	>100	Moderate	55	607013.162	6072804.23	244	3	4	6	4	1	1	25.1	9	17.6	19.1	25	0.1	0	0	21	4	0	1	1	0	0	1	20
MA021BE8	314	11.32	>100	Moderate	55	606952.408	6072881.72	339	1	4	6	7	2	0	25	27.1	27.8	7.5	0.2	0	0	0	30	3	1	1	1	0	0	1	1
MA021-01	314	11.32	>100	Moderate	55	606916.966	6072935.07	90	3	4	4	4	2	2	15.2	10.8	26.2	6.3	0.2	0.2	0	0	6.4	30	1	1	1	1	0	1	1.5
MA032579	314	4.54	>100	Very low	55	605071.1	6076104.42	134	0	0	5	3	1	0	0	0	25.4	0.3	0.1	0	0	0	4.2	0	0	0	0	0	0	0	5.7
MA032A81	314	4.54	>100	Very low	55	605130.111	6076082.09	301	0	0	6	4	0	0	0	0	30.6	0.4	0	0	0	0	3.6	0	0	0	0	0	0	0	15.8
MA051544	316	7.96	>100	Very high	55	605689.032	6094829.86	28	4	2	4	5	1	0	18	0.7	15.2	7.5	0.2	0	3	1	15	122	1	1	1	1	1	1	0.7
MA051576	316	7.96	>100	Very high	55	605537.082	6094686.89	194	3	2	5	12	2	1	40.1	1.1	25.3	16.7	30.1	0.1	3	1	49	85	1	1	1	1	1	1	0
MA0518AA	316	7.96	>100	Very high	55	605475.313	6094328.18	255	3	5	6	10	2	0	36.1	2.8	26.9	2.1	3.2	0	3	0	72	32	1	1	1	1	1	1	0
MA0510DF	316	7.96	>100	Very high	55	605476.119	6094037.99	65	3	3	4	12	1	0	40.1	4.2	22.6	3.6	0.5	0	0	0	48	8	1	1	1	1	0	1	0.1
MA05134E	316	1.17	>100	Moderate	55	605688.909	6094686.54	49	1	1	6	5	1	1	0.1	0.1	55.2	0.6	0.1	0.1	0	0	2	10	0	0	0	0	0	0	5.2
MA0518FD	316	2.68	>100	Low	55	605590.377	6094526.97	277	0	0	4	3	0	0	0	0	35.1	0.3	0	0	0	0	3	0	0	0	0	0	0	0	3.2
MA0515FE	316	2.68	>100	Low	55	605459.105	6093815.5	261	0	1	6	3	0	0	0	1	86.2	0.7	0	0	1	1	1.2	20	0	0	0	0	1	0	2.5
WM0139C1	319	0.69	>100	High	55	538562.917	6100649.22	304	2	3	12	7	1	1	50.5	2.5	12.8	2	0.1	0.1	0	3	73	8	1	1	1	1	0	0	0.1
WM0138DE	319	0.63	>100	Low	55	538295.901	6100898.26	4	2	0	11	2	1	0	50.1	0	11.8	15.1	0.1	0	0	0	13	10	0	1	1	1	0	0	0.2
WM016B40	319	0.63	>100	Low	55	540202.433	6099485.13	244	1	0	12	1	1	0	0.1	0	19.7	0.1	0.1	0	0	0	4.8	0	0	0	0	0	0	0	0
WM018003	343	2.39	>100	Moderate	55	540680.887	6099153.34	195	1	2	13	6	0	1	10	0.2	40.3	0.7	0	0.1	1	0	4.8	0	0	0	0	0	0	0	0.1
WM018002	343	2.39	>100	Moderate	55	540809.106	6099081.54	186	2	3	11	6	1	1	20.2	0.6	9.9	0.6	0.1	0.1	2	0	2.8	0	1	0	0	0	1	1	0.1
WMO45E81	343	2.39	>100	Moderate	55	563117.997	6090367.45	285	2	0	9	2	0	0	30	0	7.5	0.2	0	0	2	3	78	5	0	1	1	1	1	0	0.1
WM034766	343	3.27	>100	Very low	55	552540.368	6093240.3	293	0	0	10	2	0	0	0	0	52.9	0.2	0	0	0	0	17	0	0	0	0	0	0	0	5.3
WM034767	343	2.37	>100	Very low	55	553173.745	6093127.6	144	0	0	9	2	1	0	0	0	55.8	0.2	0.1	0	0	0	9	0	0	0	0	0	0	0	1.2
MA092758	268	10.65	<5, >100	Low	55	626030.54	6121120.43	208	3	1	5	10	0	1	16	0.5	2.3	2.5	0	0.1	0	0	12.6	25.5	1	1	1	1	0	1	31.1
MA092425	268	10.65	<5, >100	Low	55	626245.54	6121264.43	0	4	1	4	10	0	0	19	1	1.3	1	0	0	0	0	4.6	6	1	1	1	1	1	1	7.7
WM0334B9	343	3.27	>100	Very low	55	554079.535	6092842.44	289	0	0	9	5	1	0	0	0	81.3	0.6	0.2	0	0	0	32	0	0	0	0	0	0	0	0.3
WM033AC8	343	2.39	>100	Moderate	55	553987.535	6092891.44	312	1	1	7	3	0	0	25	0.1	60.7	0.3	0	0	6	0	34	36	0	0	0	0	1	0	12.1
WM033A29	343	2.39	>100	Moderate	55	554063.535	6092894.44	161	2	0	8	3	1	0	40	0	51.6	0.3	0.1	0	5	0	36	18	1	0	1	0	1	0	1.3
WM0320E5	277	10.33	<5, 5-25, >100	Low	55	550907.535	6094073.44	125	2	0	10	4	1	0	4	0	33.4	0.4	0.1	0	0	0	38	0	1	0	1	1	0	0	0.2
WM032F4C	277	4.1	>100	High	55	550754.535	6094105.44	286	1	0	4	5	0	1	1	0	31.2	5.4	0	0.1	3	0	53	40	0	0	1	0	0	1	1.2
WM0328F6	277	4.1	>100	High	55	550676.535	6094143.44	287	1	0	5	5	1	1	50	0	10.9	0.5	0.1	0.1	0	0	21	0	1	1	1	1	0	1	0.2
WM0187E3	343	2.39	>100	Moderate	55	540791.536	6099098.44	137	1	2	9	4	1	0	50	0.2	19.3	0.4	0.1	0	5	0	59	0	0	0	0	1	1	0	0.3
WM013669	319	0.69	>100	High	55	538484.536	6100680.44	111	2	3	6	3	1	0	50	5	0.7	0.4	0.2	0	1	0	65	15	0	0	1	1	1	0	0
WM0083F2	266	7.64	>100	High	55	536653.536	6102724.44	281	1	0	4	3	0	0	40	0	3.2	0.3	0	0	8	4	88	18	1	1	1	0	1	1	0
WM0587EC	297	0.47	>100	Low	55	580323.534	6086792.43	52	0	0	10	3	0	0	0	0	84.8	0.3	0	0	0	0	11	0	0	0	0	0	0	0	1.6
WM0584DB	297	0.47	>100	Low	55	580234.534	6086869.43	132	0	0	11	0	0	0	0	0	94.7	0	0	0	0	0	28	0	0	0	0	0	0	0	0.8
WM057742	290	1.31	>100	High	55	578616.534	6086914.43	230	5	6	8	10	0	0	7.1	0.6	5.9	2.8	0	0	1	0	36	34.5	0	1	1	1	1	1	0
WM057074	268	6.07	>100	High	55	577168.534	6087026.43	280	3	1	9	19	0	2	0.3	0.1	14.5	10.7	0	0.2	0	0	11	54.5	1	1	1	1	0	1	0.6
WM0557B3	268	10.65	<5, >100	Low	55	576778.534	6087079.43	50	0	0	12	3	1	0	0	0	60.5	0.3	3	0	0	0	7.8	3.5	0	0	0	0	0	0	0.7
WM057A2F	268	6.07	>100	High	55	577087.534	6087079.43	330	3	1	8	19	1	1	5.2	0.1	5.4	5.9	0.2	0.2	2	1	38	90	1	1	1	1	1	1	1
WM055735	268	10.65	<5, >100	Low	55	576530.534	6087096.43	270	0	1	11	6	1	0	0	0.1	59.5	2.6	0.1	0	0	0	7.6	0	0	0	0	0	0	0	2.7
WM0552AC	268	6.07	>100	High	55	576324.534	6087139.43	230	3	6	8	15	1	0	25.2	0.7	8.2	7.1	0.5	0	0	0	42	23.5	1	1	1	1	0	1	0.6
WM046FC8	280	14.56	25-100, >100	High	55	565375.534	6089668.43	146	1	0	10	2	2	1	25	0	72.6	0.6	0.2	0.1	6	3	30	52	1	1	0	0	1	1	0
WM046356	280	8.94	25-100, >100	Moderate	55	565253.534	6089737.43	236	1	0	3	2	0	0	40	0	0.3	0.2	0	0	3	1	82	0	0	0	0	0	1	0	0
WM0422CA	277	4.1	>100	High	55	560945.535	6090979.44	201	1	0	6	5	0	0	20	0	5.5	0.5	0	0	5	3	95	86.5	0	0	0	1	1	0	0
WM0427BE	277	4.1	>100	High	55	560827.534	6091023.44	80	3	0	3	2	0	1	15	0	10.6	0.2	0	0.1	2	0	70	27.5	0	1	1	0	1	1	0
MA09247B	301	0.42	25-100, >100	Moderate	55	622213.538	6108373.43	340	1	2	6	10	1	1	30	1.2	16.3	3.3	0.1	0.1	0	0	20	8.5	0	1	1	0	0	0	1.1
MA0926CA	301	0.63	25-100, >100	Low	55	622382.538	6109261.43	90	1	4	8	17	1	2	20	50.3	22.5	2.5	0.3	0.3	0	0	18	0	1	1	1	1	0	1	5.3

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
MA092960	301	0.63	25-100, >100	Low	55	622265.537	6108451.43	0	0	7	1	1	0	1	0	0.9	0.1	0.1	0	0.1	0	0	0	0.5	0	0	0	0	0	0	1.2
MA0926A9	266	2.16	>100	Moderate	55	626442.539	6122065.43	86	1	5	0	3	0	1	25	0.9	0	2.1	0	0.1	0	0	58.2	9.5	0	1	1	1	0	0	37
MA09282A	277	2.29	>100	Moderate	55	625921.539	6120756.43	210	2	1	2	4	0	0	25	0.1	3.1	0.4	0	0	0	0	26.6	28	1	1	0	1	1	0	72.8
MA0929CA	301	0.37	>100	High	55	622078.538	6108349.43	41	1	2	7	14	1	1	30	10.1	3.6	2.3	1	0.1	0	0	50	18.5	1	1	1	1	0	1	0.3
WM029882	277	10.33	<5, 5-25, >100	Low	55	547764.536	6094806.44	342	1	0	3	1	0	0	40	0	1.2	0.1	0	0	4	0	75	15	1	1	1	1	1	0	80
WM035A55	343	2.39	>100	Moderate	55	554110.535	6092768.44	21	2	0	9	2	0	0	55	0	2.9	0.2	0	0	3	0	79	49.5	1	1	1	1	1	0	0.3
WM058C61	297	0.59	>100	Moderate	55	578943.534	6086711.43	355	3	3	6	15	0	1	9	0.4	3.1	2.9	0	0.1	0	0	70	111	1	1	1	1	0	1	0
WM058BE9	297	0.59	>100	Moderate	55	579148.534	6086807.43	0	2	3	5	18	0	2	1.5	0.7	40.8	5.5	0	0.2	0	0	36	176	1	1	1	1	0	1	0
WM0572CF	268	6.07	TBC	High	55	578146.534	6086939.43	210	2	5	7	11	1	0	0.6	0.7	16.6	32.9	0.1	0	0	0	12	108	1	1	1	0	0	1	0
WM058F00	297	0.59	>100	Moderate	55	580081.534	6086729.43	290	2	1	5	16	0	1	27	0.2	32.6	11.5	0	0.1	0	0	94	101	1	1	1	1	0	1	0.9
WM058C4E	297	0.47	>100	Low	55	579835.534	6086762.43	132	0	0	11	0	0	0	0	0	94.7	0	0	0	0	0	28	0	0	0	0	0	0	0	0.8
WM0580FD	290	0.47	<5, >100	Low	55	578824.534	6086757.43	268	0	0	9	3	0	0	0	0	64.9	0.3	0	0	0	0	35	0	0	0	0	0	0	0	2
WM05876E	290	0.47	<5, >100	Low	55	578694.534	6086787.43	213	0	0	8	2	0	0	0	0	88.4	0.2	0	0	0	0	19	0	0	0	0	0	0	0	5.6
WM058D03	297	0.59	>100	Moderate	55	579014.534	6086707.43	60	3	3	4	15	1	2	1.6	0.3	25.2	3.7	0.1	0.2	1	0	15	2.5	0	0	0	1	1	1	10.3
WM0469C6	280	14.56	25-100, >100	High	55	565306.535	6089661.43	169	0	0	8	3	2	1	0	0	78.5	0.3	0.2	0.1	0	0	16	0	0	0	0	0	0	0	0.2
WM044C69	343	2.39	>100	Moderate	55	561524.534	6090724.44	110	1	0	6	3	0	0	30	0	5.8	0.3	0	0	6	0	28	0	0	0	1	1	1	0	0.2
WM044D65	343	2.39	>100	Moderate	55	561723.534	6090681.44	304	1	0	2	3	0	0	15	0	15.1	2.3	0	0	2	0	27	0	0	0	0	0	1	0	0.1
5	268	10.64	<5, >100	Low	55	635082.595	6134181.37	326	0	0	8	9	2	0	0	0	2.7	1.1	2	0	0	0	3	4.5	0	0	0	0	0	0	0.7
15	268	10.64	<5, >100	Low	55	634603.6	6134986.37	90	0	0	5	1	1	0	0	0	8.5	0.5	0.1	0	0	0	0	0	0	0	0	0	0	0	0.3
26	268	0.15	>100	Moderate	55	634256.601	6134886.37	160	0	0	2	2	1	0	0	0	6.2	0.6	0.1	0	0	0	0	44	0	0	0	0	0	0	0.4
2	268	0.15	>100	Moderate	55	635229.595	6134141.37	176	2	0	6	12	2	0	15.1	0	8.9	1.8	0.4	0	3	0	27	16.5	0	1	1	1	1	0	0.6
16	268	10.64	<5, >100	Low	55	634725.6	6134904.37	56	1	0	5	6	0	0	12	0	11.6	1.7	0	0	1	0	25	10	0	0	1	1	1	0	0.5
17	268	0.15	>100	Moderate	55	635274.599	6135023.37	308	0	0	5	6	0	0	0	0	6.9	2.7	0	0	1	1	5	80	0	0	1	1	1	1	0.2
22	294	0.04	>100	Moderate	55	634642.598	6134428.37	140	1	0	2	5	1	1	0.1	0	11	0.6	0.1	4	0	0	5	15	0	0	0	0	0	0	0
27	294	0.04	>100	Moderate	55	634401.6	6134680.37	150	4	3	4	12	2	2	16.2	0.8	0.5	1.4	0.6	2.1	4	0	10	30	0	0	1	1	1	1	0
29	294	0.04	>100	Moderate	55	634645.598	6134379.37	150	3	1	4	9	3	1	24	0.1	1.7	2	0.3	1	3	1	9	14	0	0	0	1	1	1	0.1
23	294	0.04	>100	Moderate	55	634717.597	6134251.37	320	4	0	4	11	2	1	18.1	0	7.2	1.1	1.1	0.5	0	0	5	15	0	1	1	1	0	0	0

TG = Tree Group, SG = Shrub Group, GG = Grass & Grass-like Group, FG = Forb Group, EG = Fern Group, OG = Other Group, HBT = Hollow-bearing Tree, LC = Litter Cover, FLL = Length of fallen Logs (m), Tree Stem Size Class (diameter breast height of trunk in cm), 5-10, 10-20, 20-30, 30-50 and 50-80, Regen = Tree Stem Size Class <5 cm

Table A6- 5: Bondo IBRA Subregion BAM plot function, structure and composition scores

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
MA-092C	295	1.66	>100	Moderate	55	622981.474	6112436.81	180	2	0	4	3	0	0	32.0	0.0	16.2	0.3	0.0	0.0	1	4	38.0	24.0	0	1	1	1	1	0	0.2
MA09208C	295	1.66	>100	Moderate	55	622895.877	6112541.43	237	2	0	3	7	0	0	40.0	0.0	30.6	6.0	0.0	0.0	9	2	47.0	25.0	1	1	1	1	1	1	0.2
MA-014A2	295	1.66	>100	Moderate	55	622436.838	6109581.61	333	5	1	4	3	1	0	6.5	0.1	60.3	1.2	1.0	0.0	1	2	6.0	18.0	1	1	1	1	1	1	0.3
WM0948A5	299	1.38	>100	Moderate	55	608033.648	6060710.49	1	3	12	5	1	0	0	17.0	51.1	82.5	0.2	0.0	0.0	1	0	7.2	64.4	1	1	1	1	0	1	0.1
MA014EB4	953	28.11	>100	High	55	609512.641	6068327.63	157	3	7	6	8	1	3	25.5	13.7	49.5	3.0	1.0	0.3	4	1	29.0	9.0	1	1	1	1	1	1	0.0
MA014C96	953	28.11	>100	High	55	609564.036	6069056.9	251	1	5	4	8	1	1	5.0	15.6	39.0	2.1	5.0	0.1	2	0	5.4	0.0	0	1	1	1	1	1	0.0
MA-092A	299	1.23	>100	Very low	55	623377.4	6113876.05	280	0	0	2	2	0	0	0	0	90.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.2
MA013E74	953	28.11	>100	High	55	609614.532	6068443.43	300	4	18	3	6	2	1	6.2	21.3	0.4	15.6	0.3	30	4	6	16	9.5	0	0	0	1	1	1	30.1
MA092B25	295	1.66	>100	Moderate	55	623329.538	6114012.43	115	3	0	4	10	0	0	30	0	10.3	3.3	0	0	0	0	42.4	66.5	0	1	0	1	1	0	72.4
MA092743	299	1.38	>100	Moderate	55	623418.538	6113643.43	241	2	1	5	15	0	0	11	0.1	3.4	7.7	0	0	0	1	27	57	1	1	0	1	1	1	15.8
MA092318	299	1.38	>100	Moderate	55	623007.538	6113188.43	220	2	1	1	14	1	1	8	0.1	0.1	4.4	0.1	0.1	0	0	68.4	10	1	1	1	0	1	1	35.4
MA0118CA	953	28.11	>100	High	55	608883.531	6066146.43	90	2	3	4	13	1	2	3	0.3	5.7	7	15	0.5	4	9	11	92	1	1	1	1	1	0	0.1
MA-092C	295	1.66	>100	Moderate	55	622981.474	6112436.81	180	2	0	4	3	0	0	32.0	0.0	16.2	0.3	0.0	0.0	1	4	38.0	24.0	0	1	1	1	1	0	0.2
MA09208C	295	1.66	>100	Moderate	55	622895.877	6112541.43	237	2	0	3	7	0	0	40.0	0.0	30.6	6.0	0.0	0.0	9	2	47.0	25.0	1	1	1	1	1	1	0.2
MA-014A2	295	1.66	>100	Moderate	55	622436.838	6109581.61	333	5	1	4	3	1	0	6.5	0.1	60.3	1.2	1.0	0.0	1	2	6.0	18.0	1	1	1	1	1	1	0.3

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
WM0948A5	299	1.38	>100	Moderate	55	608033.648	6060710.49	1	3	12	5	1	0	0	17.0	51.1	82.5	0.2	0.0	0.0	1	0	7.2	64.4	1	1	1	1	0	1	0.1
MA014EB4	953	28.11	>100	High	55	609512.641	6068327.63	157	3	7	6	8	1	3	25.5	13.7	49.5	3.0	1.0	0.3	4	1	29.0	9.0	1	1	1	1	1	1	0.0
MA014C96	953	28.11	>100	High	55	609564.036	6069056.9	251	1	5	4	8	1	1	5.0	15.6	39.0	2.1	5.0	0.1	2	0	5.4	0.0	0	1	1	1	1	1	0.0
MA-092A	299	1.23	>100	Very low	55	623377.4	6113876.05	280	0	0	2	2	0	0	0	0	90.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.2
MA013E74	953	28.11	>100	High	55	609614.532	6068443.43	300	4	18	3	6	2	1	6.2	21.3	0.4	15.6	0.3	30	4	6	16	9.5	0	0	0	1	1	1	30.1
MA092B25	295	1.66	>100	Moderate	55	623329.538	6114012.43	115	3	0	4	10	0	0	30	0	10.3	3.3	0	0	0	0	42.4	66.5	0	1	0	1	1	0	72.4
MA092743	299	1.38	>100	Moderate	55	623418.538	6113643.43	241	2	1	5	15	0	0	11	0.1	3.4	7.7	0	0	0	1	27	57	1	1	0	1	1	1	15.8
MA092318	299	1.38	>100	Moderate	55	623007.538	6113188.43	220	2	1	1	14	1	1	8	0.1	0.1	4.4	0.1	0.1	0	0	68.4	10	1	1	1	0	1	1	35.4
MA0118CA	953	28.11	>100	High	55	608883.531	6066146.43	90	2	3	4	13	1	2	3	0.3	5.7	7	15	0.5	4	9	11	92	1	1	1	1	1	0	0.1

TG = Tree Group, SG = Shrub Group, GG = Grass & Grass-like Group, FG = Forb Group, EG = Fern Group, OG = Other Group, HBT = Hollow-bearing Tree, LC = Litter Cover, FLL = Length of fallen Logs (m), Tree Stem Size Class (diameter breast height of trunk in cm), 5-10, 10-20, 20-30, 30-50 and 50-80, Regen = Tree Stem Size Class <5 cm

Table A6- 6: Snowy Mountains IBRA Subregion BAM plot function, structure and composition scores

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function										
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
MA094OUT2	300	0.53	>100	Low	55	612871.164	6048176.13	345	0	0	7	10	0	0	0.0	0.0	30.6	12.0	0.0	0.0	0	0	6.8	0.0	0	0	0	0	0	1	3.0
WM094E1	300	0.38	>100	Moderate	55	612985.93	6046969.84	265	1	7	7	22	1	1	70.0	4.2	64.1	6.5	0.5	0.1	0	0	3.2	0.0	0	0	0	0	0	1	5.7
WM094284	953	TBC	>100	Very high	55	610944.085	6054219.99	35	5	13	6	16	1	2	25.5	13.1	27.9	3.6	25.0	0.3	5	4	71.0	42.0	1	1	1	1	1	1	0.0
WM094607	300	22.93	>100	High	55	612892.052	6047213.14	324	2	6	2	4	1	2	35.0	12.6	25.0	6.2	50.0	0.2	6	1	81.0	14.0	1	1	1	1	1	1	0.0
WM0941A7	300	22.93	>100	High	55	611999.83	6052056.24	112	2	8	7	8	1	1	45.0	25.1	27.0	9.0	20.0	0.1	2	3	50.0	7.0	1	1	1	1	1	1	0.0
WM094A1B	300	22.93	>100	High	55	612107.438	6052035.42	107	3	8	5	10	1	2	73.0	10.2	2.5	2.7	35.0	0.6	8	4	43.0	30.0	0	0	1	1	1	1	5.0
WM09498C	638	30.54	>100	High	55	608645.62	6057899.15	114	3	5	3	6	1	2	75.0	5.0	30.0	21.8	55.0	0.2	2	0	65.0	6.0	1	1	1	1	1	1	0.0
WM094A73	638	30.54	>100	High	55	608682.446	6057543.15	170	4	10	3	10	1	2	37.0	8.8	30.0	6.7	60.0	0.2	0	0	36.0	19.0	1	1	1	1	0	1	0.0
WM094F0B	638	30.54	>100	High	55	608859.537	6057084.34	9	4	11	8	8	1	2	31.0	11.8	51.2	7.8	1.0	0.2	2	0	62.0	20.0	0	1	1	1	0	1	0.0
MA002091	679	0.22	>100	Low	55	616013.23	6041711.84	330	2	3	3	8	0	0	0.6	5.7	130.0	8.0	0.0	0.0	0	0	0.2	9.0	0	0	0	0	0	1	0.5
MA002A7B	679	3.39	>100	High	55	615991.264	6041599.06	281	2	4	2	12	0	1	35.0	2.3	60.1	5.1	0.0	0.1	9	3	45.0	26.0	1	1	1	1	1	1	0.0
WM094E2	939	0.56	>100	Very high	55	612830.595	6048822.75	85	0	6	12	8	0	0	0.0	19.0	40.0	5.4	0.0	0.0	0	0	0.6	0.0	0	0	0	0	0	0	0.0
MA094OUT3	953	4.43	>100	Low	55	612733.582	6049552.74	170	0	3	8	9	0	2	0.0	1.3	58.7	16.1	0.0	0.2	0	0	12.2	1.0	0	0	0	0	0	0	5.2
MA094OUT5	953	4.43	>100	Low	55	616839.813	6040688.35	150	1	4	5	11	0	1	0.2	0.8	62.4	8.7	0.0	0.1	0	0	4.4	1.0	1	0	0	0	0	1	0.8
WM094BOG2	939	0.56	>100	Very high	55	612872.08	6045923.3	351	1	5	8	8	0	0	5.0	60.2	66.1	12.4	0.0	0.0	0	0	0.4	0.0	0	0	0	0	0	0	0.0
MA094OUT1	953	4.43	>100	Low	55	612998.19	6047429.65	293	1	5	8	17	1	1	0.2	5.4	46.1	3.7	5.0	0.1	0	0	9.0	15.0	0	0	0	0	0	1	3.0
WM094898	953	4.43	>100	Low	55	613026.673	6046752.69	163	1	4	7	10	1	0	0.1	2.5	22.0	5.8	40.0	0.0	0	0	0.0	0.0	0	0	0	0	0	1	5.0
MA094E3	953	4.43	>100	Low	55	612754.097	6049228.41	34	1	1	7	9	0	0	0.2	0.3	63.8	2.7	0.0	0.0	0	0	2.6	0.0	0	0	0	0	0	1	1.2
WM094E0E	953	81.98	>100	Very high	55	612371.225	6051409.67	36	2	11	7	6	0	1	20.2	58.1	16.0	3.3	0.0	0.1	1	0	53.0	5.0	1	1	1	1	0	1	0.1
WM0945E2	953	81.98	>100	Very high	55	612761.124	6045817.84	326	2	4	3	15	0	1	25.0	46.0	53.0	8.5	0.0	0.1	2	0	47.0	15.0	1	1	1	1	0	1	0.0
WM094971	953	81.98	>100	Very high	55	612845.586	6046024.7	189	3	6	7	24	0	2	22.0	56.8	31.9	4.6	0.0	0.6	4	2	26.0	25.0	1	1	1	1	1	1	0.0
MA0041AA	953	81.98	>100	Very high	55	614859.272	6043149.48	152	3	1	4	9	1	1	10.5	1.0	35.6	2.8	15.0	0.1	4	0	50.0	21.0	1	0	0	1	1	1	1.1
MA-009A	953	81.98	>100	Very high	55	612985.898	6045641.68	325	2	7	5	23	0	1	25.0	40.8	23.1	8.9	0.0	0.5	7	3	54.0	42.0	1	1	1	1	1	1	0.0
WM094953	953	81.98	>100	Very high	55	612876.392	6047526.87	174	4	4	3	9	1	1	40.2	2.3	22.1	3.3	20.0	0.2	3	1	54.0	15.0	1	1	1	1	0	1	0.0
WM117798	953	81.98	>100	Very high	55	618802.879	6038330.72	89	2	8	9	27	0	2	30.0	7.7	67.3	21.8	0.0	0.3	10	6	30.0	62.0	1	1	1	1	1	1	0.3
WM0942C1	953	81.98	>100	Very high	55	611658.362	6053078.48	74	2	11	4	4	0	0	30.0	33.4	19.1	5.1	0.0	0.0	0	0	42.0	7.0	0	0	0	0	0	1	0.0
MA0023AE	1196	0.67	>100	Low	55	615674.45	6042153.7	316	0	2	7	5	0	1	0.0	0.2	42.7	1.1	0.0	0.1	0	0	1.8	8.0	1	1	0	0	0	1	5.0
MA002A30	1196	30.99	>100	High	55	615374.125	6042440.72	134	3	2	3	8	1	1	40.0	0.3	35.2	6.2	0.5	0.1	1	1	62.8	13.0	1	1	1	1	1	1	0.0
MA0077B6	1196	30.99	>100	High	55	613775.421	6044533.9	145	3	4	6	20	0	2	50.0	1.6	7.4	46.3	0.0	0.3	8	0	42.0	35.0	0	0	1	1	1	1	0.0
MA0027A2	1224	0.25	>100	High	55	615950.007	6041502.14	335	0	0	6	6	0	0	0.0	0.0	108.2	2.5	0.0	0.0	0	0	0.6	0.0	0	0	0	0	0	0	0.0
MA002430	1196	30.99	>100	High	55	615800.301	6041856.46	1	2	2	4	5	1	2	65.0	0.3	44.1	4.3	2.0	0.7	1	0	23.0	118.4	1	1	1	1	1	1	0.0
MA002083	1196	30.99	>100	High	55	615613.364	6042102.29	180	2	0	4	6	1	2	80.0	0.0	62.0	28.7	0.2	4.0	4	0	17.4	80.7	1	1	0	1	1	1	0.0
WM114574	953	81.98	>100	Very high	55	617747.059	6039629.59	330	3	4	3	8	1	2	55.0	3.8	43.5	10.1	0.3	0.2	6	1	32.4	145.2	1	1	1	1	0	1	0.0
WM1147C9	953	81.98	>100	Very high	55	618277.53	6038971.72	150	1	7	3	6	0	1	35.0	44.1	80.0	1.9	0.0	0.1	5	1	23.6	596.4	1	1	1	1	1	1	0.0
WM117287	953	81.98	>100	Very high	55	618992.939	6038226.43	140	3	7	3	8	0	1	30.0	12.1	73.2	6.5	0.0	0.1	6	2	35.6	277.4	1	1	1	1	1	1	0.0

Plot	PCT	Area (ha)	Patch Size	Condition	Zone	Easting	Northing	Bearing	Composition						Structure						Function									
									TG	SG	GG	FG	EG	OG	TG	SG	GG	FG	EG	OG	Large Trees	HBT	LC	FLL	5-10	10-20	20-30	30-50	50-80	Regen	HTE
WM094034	638	30.54	>100	High	55	608860.53	6057077.43	315	4	10	3	12	1	1	5.2	3.4	6.1	1.9	5	0.2	6	2	60	91	0	1	1	1	1	0	0
WM094913	638	30.54	>100	High	55	608684.53	6057541.43	320	2	6	3	16	1	2	7	1.9	8.1	4.2	6	0.2	5	3	65	55	1	1	1	1	1	1	0.1
WM094B46	638	30.54	>100	High	55	608643.53	6057898.43	90	3	7	4	18	1	2	2.6	1.4	4.2	5.4	6	0.2	0	1	78	95	1	1	1	1	0	0	1
WM094613	638	30.54	>100	High	55	610092.529	6055281.43	270	3	5	3	14	2	2	31	2.7	11.1	3.7	3.5	0.2	0	1	52	58	0	1	1	1	1	0	0
WM094037	638	30.54	>100	High	55	609815.529	6055414.43	110	3	7	7	17	2	1	4.2	2.6	11.9	13.6	2.1	0.1	1	0	57	138	1	1	1	1	1	1	0.1
MA001C58	1224	0.25	>100	High	55	616215.527	6041333.43	174	0	1	10	21	0	0	0	0.1	77.6	3.9	0	0	0	0	0.2	0	0	0	0	0	0	0	0.2
MA0019FF	1224	0.25	>100	High	55	616145.527	6041386.43	241	0	1	8	10	0	0	0	0.1	91.9	1.5	0	0	0	0	0.2	0	0	0	0	0	0	0	0
WM094203	953	81.98	>100	Very high	55	612960.528	6046747.43	335	3	7	6	23	1	3	10	1.4	16.7	5.4	60	0.4	1	0	70.2	53	1	1	1	1	1	1	0.1
WM094D78	953	81.98	>100	Very high	55	612371.529	6051407.43	195	2	7	5	19	0	2	17	4.5	11.9	8.1	0	0.2	4	8	28	31	1	1	1	1	1	1	0
WM094C38	638	30.54	>100	High	55	608991.529	6056399.43	190	4	3	8	12	1	2	9.1	0.5	17.7	8	0.1	0.6	2	0	1	0	0	0	0	1	1	1	73
WM117873	953	81.98	>100	Very high	55	618880.527	6038321.43	315	5	7	6	18	0	2	24.1	3.6	30.9	3.8	0	1.5	0	2	62.8	168	1	1	1	1	1	1	1
WM11484B	953	81.98	>100	Very high	55	618097.527	6039091.43	140	2	3	4	10	0	2	25	2.3	11	1.5	0	0.3	0	1	43.8	202.5	1	1	0	1	1	1	0
WM0945C9	300	0.53	>100	Low	55	612845.528	6048171.43	340	0	0	11	10	0	0	0	0	40.8	6.2	0	0	0	0	0.6	5	0	0	0	0	0	0	9.2
WM0944CF	1196	0.67	>100	Low	55	612802.529	6048571.43	336	2	3	13	19	0	2	0.4	1.2	30.8	5.8	0	0.2	0	0	2.6	1	0	0	0	0	0	1	5.1
WM094703	953	4.42	>100	Low	55	612735.528	6049221.43	332	0	2	7	9	0	0	0	0.2	29.5	12.3	0	0	0	0	3	0	0	0	0	0	0	0	5.2
WM114F2B	953	81.98	>100	Very high	55	617185.527	6040001.43	280	4	8	7	15	0	1	30.1	3.7	66.6	7	0	0.5	5	8	37	84	1	1	1	1	1	1	0
WM1140A2	953	81.98	>100	Very high	55	618293.527	6038259.43	270	3	6	5	22	0	1	12	2.8	41	32.7	0	0.5	5	0	22	76	1	1	1	1	1	1	0.2
WM094503	953	81.98	>100	Very high	55	612745.528	6045782.43	244	4	11	7	26	2	3	3.1	2.1	47.6	3.4	0.6	0.3	3	0	8	51	1	1	1	1	1	1	0.2
WM114C79	953	81.98	>100	Very high	55	617845.527	6038657.43	250	2	9	13	22	0	1	10	2.3	66.7	5.1	0	0.1	1	0	50	91	1	1	1	1	1	1	0
WM0944F1	953	4.42	>100	Low	55	612622.529	6050631.43	156	0	0	11	10	0	0	0	0	26.4	23.2	0	0	0	0	0.6	0	0	0	0	0	0	0	5.8

TG = Tree Group, SG = Shrub Group, GG = Grass & Grass-like Group, FG = Forb Group, EG = Fern Group, OG = Other Group, HBT = Hollow-bearing Tree, LC = Litter Cover, FLL = Length of fallen Logs (m), Tree Stem Size Class (diameter breast height of trunk in cm), 5-10, 10-20, 20-30, 30-50 and 50-80, Regen = Tree Stem Size Class <5 cm

Attachment 7. BAM plot data used for vegetation zones with plot short fall

Table A7- 1. Vegetation zones with a BAM plot shortfall and consequent surrogate or duplicate plot use within the BAM-C

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Bungonia/South Eastern Highlands	283	Very low	Western Slopes Grassy Woodlands	Surrogate	YG001693 YYG001AA0 YG0056F6 WM05392C YG-042F	Inland Slopes/NSW South Western Slopes	277	Very low	Western Slopes Grassy Woodlands	This vegetation zone is only present within the project footprint in small, isolated patches between patches of higher quality vegetation. The zone could therefore not be accurately sampled with a plot.
Bungonia/South Eastern Highlands	1093	High	Southern Tableland Dry Sclerophyll Forests	Duplicate	BY052A65 BY052FAF BY083EC7 BY05274F BY0448CD	Crookwell/South Eastern Highlands	1093	High	Southern Tableland Dry Sclerophyll Forests	This zone is present in a singular patch in the project footprint. Part of the patch is only present within an inaccessible property.
Bungonia/South Eastern Highlands	1093	Moderate	Southern Tableland Dry Sclerophyll Forests	Duplicate	BY052BA4 BY0573C9	Crookwell/South Eastern Highlands	1093	Moderate	Southern Tableland Dry Sclerophyll Forests	Most of this vegetation zone is present within an inaccessible property.
Bungonia/South Eastern Highlands	1097	Moderate	Southern Tableland Wet Sclerophyll Forests	Surrogate	MA-092C MA09208C MA-014A2 MA092B25	Bondo/South Eastern Highlands	295	Moderate	Southern Tableland Wet Sclerophyll Forests	This vegetation zone is present within an inaccessible property.
Bungonia/South Eastern Highlands	1150	High	South East Dry sclerophyll Forests	Duplicate	BY010F5E	Bungonia/South Eastern Highlands	1150	High	South East Dry Sclerophyll Forests	Most of this vegetation zone is present within inaccessible properties. Therefore, the plot requirement was not met.
Bungonia/South Eastern Highlands	1150	Low	South East Dry sclerophyll Forests	Surrogate	BY-054D BY-037B BY034D07	Crookwell/South Eastern Highlands	1151	Low	South East Dry Sclerophyll Forests	This vegetation zone is present within inaccessible properties.

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Bungonia/South Eastern Highlands	1150	Very low	South East Dry sclerophyll Forests	Surrogate	BY-054C	Crookwell/South Eastern Highlands	1151	Very low	South East Dry Sclerophyll Forests	This vegetation zone is present within inaccessible properties.
Bungonia/South Eastern Highlands	1330	Very low	Southern Tableland Grassy Woodlands	Surrogate	BY066A52 BY0651CB BY065325	Crookwell/South Eastern Highlands	1330	Very low	Southern Tableland Grassy Woodlands	This vegetation zone is present within inaccessible properties.
Crookwell/South Eastern Highlands	280	Low	Western Slopes Grassy Woodlands	Duplicate	YG02401 YG026A72	Murrumbateman/South Eastern Highlands	280	Low	Western Slopes Grassy Woodlands	Within the Crookwell subregion, this vegetation zone is present within a small patch, part of which is located in an inaccessible property.
Crookwell/South Eastern Highlands	283	Moderate	Western Slopes Grassy Woodlands	Surrogate	BY10369E BY10345E	Murrumbateman/South Eastern Highlands	283	Moderate	Western Slopes Grassy Woodlands	This vegetation zone is generally present in small, isolated patches and was not adequately sampled within this subregion.
Crookwell/South Eastern Highlands	283	Very low	Western Slopes Grassy Woodlands	Surrogate	YG026MP1	Murrumbateman/South Eastern Highlands	278	Very low	Western Slopes Grassy Woodlands	This vegetation zone is largely situated on one property within the Crookwell subregion which was not adequately sampled.
Crookwell/South Eastern Highlands	952	Very low	Subalpine Woodlands	Duplicate	BY-026A	Crookwell/South Eastern Highlands	952	Very low	Subalpine Woodlands	Except for one patch too small to sample, this vegetation zone is present in an inaccessible property.
Crookwell/South Eastern Highlands	1093	Very low	Southern Tableland Dry Sclerophyll Forests	Duplicate	BY-014L	Bungonia/South Eastern Highlands	1093	Very low	Southern Tableland Dry Sclerophyll Forests	This vegetation zone is largely situated on one property within the Crookwell subregion which was not adequately sampled.

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Inland Slopes/NSW South Western Slopes	266	Low	Western Slopes Grassy Woodlands	Duplicate	YG037B35 MA089714	Inland Slopes/NSW South Western Slopes	266	Low	Western Slopes Grassy Woodlands	Large areas of this vegetation zone were located in inaccessible properties. Therefore, only two plots were conducted.
Inland Slopes/NSW South Western Slopes	278	Moderate	Western Slopes Grassy Woodlands	Duplicate	YG-042C	Inland Slopes/NSW South Western Slopes	278	Moderate	Western Slopes Grassy Woodlands	Plot requirement not met. Duplicate plots used to fulfil plot requirement.
Inland Slopes/NSW South Western Slopes	280	Low	Western Slopes Grassy Woodlands	Duplicate	YG02401 YG026A72	Murrumbateman/South Eastern Highlands	280	Low	Western Slopes Grassy Woodlands	Vegetation zone severely burnt (5.9% of vegetation zone). Most of this vegetation zone was also situated within inaccessible properties.
Inland Slopes/NSW South Western Slopes	280	Very low	Western Slopes Grassy Woodlands	Duplicate	MA05903-01	Inland Slopes/NSW South Western Slopes	280	Very low	Western Slopes Grassy Woodlands	Vegetation zone severely burnt (5.7% of vegetation zone). Large areas of this vegetation zone were also situated within inaccessible properties.
Inland Slopes/NSW South Western Slopes	287	Very low	Western Slopes Dry Sclerophyll Forests	Duplicate	YG0138B4	Murrumbateman/South Eastern Highlands	287	Very low	Western Slopes Dry Sclerophyll Forests	Vegetation zone severely burnt (38.5% of vegetation zone). This vegetation zone is also present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	299	Low	Southern Tableland Dry Sclerophyll Forests	Duplicate	MA-092B MA09278F	Bondo/South Eastern Highlands	299	Low	Southern Tableland Dry Sclerophyll Forests	This vegetation zone is present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	299	Very low	Southern Tableland Dry Sclerophyll Forests	Duplicate	MA-092A	Bondo/South Eastern Highlands	299	Very low	Southern Tableland Dry Sclerophyll Forests	Vegetation zone severely burnt (8.68% of vegetation zone). This vegetation zone is also largely situated within inaccessible properties.

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Inland Slopes/NSW South Western Slopes	306	High	Upper Riverina Dry Sclerophyll Forests	Surrogate	WM057IS2 WM057742	Inland Slopes/NSW South Western Slopes	290	High	Upper Riverina Dry Sclerophyll Forests	Vegetation zone severely burnt (28.8% of vegetation zone). This vegetation zone is also present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	306	Low	Upper Riverina Dry Sclerophyll Forests	Surrogate	WM058DCC WM0580FD WM05876E YG035805	Inland Slopes/NSW South Western Slopes	290	Low	Upper Riverina Dry Sclerophyll Forests	Vegetation zone severely burnt (51.4% of vegetation zone). This vegetation zone is also present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	306	Very low	Upper Riverina Dry Sclerophyll Forests	Surrogate	WM059CE5 WM0598AD	Inland Slopes/NSW South Western Slopes	290	Very low	Upper Riverina Dry Sclerophyll Forests	Vegetation zone severely burnt (29.9% of vegetation zone). This vegetation zone is also present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	314	Low	Upper Riverina Dry Sclerophyll Forests	Surrogate	WM0581E8 WM058EAA WM058F1D WM0587EC WM0584DB WM058C4E	Inland Slopes/NSW South Western Slopes	297	Low	Upper Riverina Dry Sclerophyll Forests	Vegetation zone severely burnt (53.9% of vegetation zone). This vegetation zone is also largely present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	316	High	Western Slopes Grassy Woodlands	Surrogate	MA-089B MA089A15 MA-014A5 MA0929CA	Inland Slopes/NSW South Western Slopes	301	High	Western Slopes Grassy Woodlands	Plot requirement not met. Duplicate plots used to fulfil plot requirement.
Inland Slopes/NSW South Western Slopes	343	Low	Western Slopes Dry Sclerophyll Forests	Surrogate	WM058E47	Inland Slopes/NSW South Western Slopes	287	Low	Western Slopes Dry Sclerophyll Forests	This vegetation zone is present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	352	Low	Southern Tableland Dry Sclerophyll Forests	Duplicate	YG014754	Murrumbateman/South Eastern Highlands	352	Low	Southern Tableland Dry Sclerophyll Forests	This vegetation zone is present within inaccessible properties.

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Inland Slopes/NSW South Western Slopes	352	Very low	Southern Tableland Dry Sclerophyll Forests	Duplicate	YG01407E	Murrumbateman/South Eastern Highlands	352	Very low	Southern Tableland Dry Sclerophyll Forests	This vegetation zone is present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	731	Low	Southern Tableland Grassy Woodlands	Duplicate	BY-032C BY03130D BY0349F2 BY034745 BY034E63	Crookwell/South Eastern Highlands	731	Low	Southern Tableland Grassy Woodlands	This vegetation zone is present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	731	Very low	Southern Tableland Grassy Woodlands	Surrogate	BY11301ADB BY11301346 BY122021B6	Murrumbateman/South Eastern Highlands	1330	Very low	Southern Tableland Grassy Woodlands	This vegetation zone is present within inaccessible properties.
Inland Slopes/NSW South Western Slopes	1191	Moderate	Subalpine Woodlands	Duplicate	146MP009	Crookwell/South Eastern Highlands	1191	Moderate	Subalpine Woodlands	This vegetation zone is present in small patches and partly within inaccessible property.
Murrumbateman/South Eastern Highlands	266	Low	Western Slopes Grassy Woodlands	Duplicate	YG037B35 MA089714	Inland Slopes/NSW South Western Slopes	266	Low	Western Slopes Grassy Woodlands	Plot requirement not met. Duplicate plots used to fulfil plot requirement.
Murrumbateman/South Eastern Highlands	280	Low	Western Slopes Grassy Woodlands	Duplicate	YG026A72	Inland Slopes/NSW South Western Slopes	280	Low	Western Slopes Grassy Woodlands	Plot requirement not met. Duplicate plots used to fulfil plot requirement.
Murrumbateman/South Eastern Highlands	280	Very low	Western Slopes Grassy Woodlands	Duplicate	MA05903-01	Inland Slopes/NSW South Western Slopes	280	Very low	Western Slopes Grassy Woodlands	Plot requirement not met. Duplicate plots used to fulfil plot requirement.
Murrumbateman/South Eastern Highlands	1093	Very low	Southern Tableland Dry Sclerophyll Forests	Duplicate	BY-014L	Bungonia/South Eastern Highlands	1093	Very low	Southern Tableland Dry Sclerophyll Forests	Some areas of this vegetation zone were in accessible properties. Plot requirement not met.
Murrumbateman/South Eastern Highlands	1330	Very low	Southern Tableland Grassy Woodlands	Duplicate	BY11301ADB BY11301346 BY122021B6	Murrumbateman/South Eastern Highlands	1330	Very low	Southern Tableland Grassy Woodlands	Plot requirement not met (4 plots required, 3 plots completed).
Bondo/South Eastern Highlands	285	Low	Upper Riverina Dry Sclerophyll Forests	Surrogate	YG035805	Inland Slopes/NSW South Western Slopes	290	Low	Upper Riverina Dry Sclerophyll Forests	Vegetation zone severely burnt (100% of vegetation zone)

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Bondo/South Eastern Highlands	295	Low	Southern Tableland Wet Sclerophyll Forests	Surrogate	MA094OUT2 WM0945C9	Snowy Mountains /Australian Alps	300	Low	Southern Tableland Wet Sclerophyll Forests	This vegetation zone is often present in very small patches, too small to sample.
Bondo/South Eastern Highlands	296	Low	Southern Tableland Wet Sclerophyll Forests	Surrogate	MA094OUT2 WM0945C9	Snowy Mountains /Australian Alps	300	Low	Southern Tableland Wet Sclerophyll Forests	This vegetation zone was too small to sample.
Bondo/South Eastern Highlands	953	Very high	Southern Tableland Dry Sclerophyll Forests	Duplicate	WM094284 WM094E0E WM0945E2 WM094971 MA0041AA MA-009A WM094953 WM117798 WM0942C1 WM114574 WM1147C9 WM117287	Snowy Mountains /Australian Alps	953	Very High	Southern Tableland Dry Sclerophyll Forests	Vegetation zone severely burnt (100% of vegetation zone)
Bondo/South Eastern Highlands	953	Low	Southern Tableland Dry Sclerophyll Forests	Duplicate	MA094OUT3 MA094OUT5 MA094OUT1 WM094898 MA094E3 WM094703 WM0944F1	Snowy Mountains /Australian Alps	953	Low	Southern Tableland Dry Sclerophyll Forests	Vegetation zone severely burnt (58.6% of vegetation zone). This vegetation zone is also largely present in inaccessible properties.
Bondo/South Eastern Highlands	953	Very low	Southern Tableland Dry Sclerophyll Forests	Surrogate, Duplicate	MA-092A	Bondo/South Eastern Highlands	299	Very Low	Southern Tableland Dry Sclerophyll Forests	Vegetation zone severely burnt (16.8% of vegetation zone). This vegetation zone is also present in inaccessible properties.
Snowy Mountains /Australian Alps	953	High	Southern Tableland Dry Sclerophyll Forests	Duplicate	WM094764	Bondo/South Eastern Highlands	953	High	Southern Tableland Dry Sclerophyll Forests	Vegetation zone severely burnt (70% of vegetation zone)

Data deficient vegetation zone					Surrogate/Duplicate plots					
IBRA subregion	**PCT**	**Condition class**	**Vegetation class**	**Surrogate or Duplicate plot used**	**Surrogate/duplicate plot code**	**IBRA subregion/region**	**PCT**	**Condition class**	**Vegetation class**	**Reason for surrogate/duplicate plot used**
Snowy Mountains /Australian Alps	953	Moderate	Southern Tableland Dry Sclerophyll Forests	Surrogate	WM094765 WM094766 WM094767	Bondo/South Eastern Highlands	299	Moderate	Southern Tableland Dry Sclerophyll Forests	Vegetation zone severely burnt (50% of vegetation zone)

Attachment 8. Survey dates and weather conditions

Weather conditions for each date in which field surveys were undertaken are presented in Table A8- 1. Climate data was retrieved from the Wagga Wagga weather station (35.16° S, 147.46° E). Survey conditions specific to Golden Sun Moth (*Synemon plana*) are provided in Table A8- 2. These were retrieved from the Burrinjuck Dam weather station (35° S, 148.6° E).

It should be noted:

- Blank cells denote where there are Bureau of Meteorology data deficiencies for the survey period.
- The climate data below is intended to provide a general indication of weather conditions across the extent of the project footprint at the time of survey. Localised daily survey conditions are likely to have varied slightly from those shown below.

Table A8- 1: Field survey conditions

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
1/12/2018			0		
2/12/2018		25.5	0		
3/12/2018	16	23.5	1.9		
4/12/2018	12.5		0		
5/12/2018			0		
6/12/2018			0		
7/12/2018		34.5	0		
8/12/2018	15.5	34	0		
9/12/2018	16		0		
10/12/2018			0.7		
11/12/2018			0		
12/12/2018			0		
13/12/2018			23		
14/12/2018			25.8		
15/12/2018			11.2		
16/12/2018			0		
17/12/2018		29.6	0		
18/12/2018	17.3	33	0		
19/12/2018	20	32.8	0		
20/12/2018	17.7	35.6	0		
21/12/2018	18.8	26.2	0		
22/12/2018	14.9	25.3	0		
23/12/2018	11.9	28.1	0		
24/12/2018	13.1		0		
25/12/2018		34.8	0		
26/12/2018	15.6	37.8	0		
27/12/2018	16.4	38.7	0		
28/12/2018	19.1	38.6	0		
29/12/2018	18.7	39.1	0		
30/12/2018	18.6	36.2	0		

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
31/12/2018		34.3	0		
1/12/2019	5.5	22.7	6.2		
2/12/2019	7.8	15.1	0		
3/12/2019	8	21	0		
4/12/2019	12	23.5	0		
5/12/2019	8		0		
6/12/2019		27.4	0		
7/12/2019	9.4	30.1	0		
8/12/2019	12.3	33	0		
9/12/2019	15.5	34.5	0		
10/12/2019	15	38.1	0		
11/12/2019	14.2	35	0		
12/12/2019	13.8	30.5	0		
13/12/2019	15	29	0		
14/12/2019	12.5	29.5	0		
15/12/2019	13	31	0		
16/12/2019	14	33	0		
17/12/2019	15	34.8	0		
18/12/2019	17.2	38.9	0		
19/12/2019	17.8	41.2	0		
20/12/2019	18.3	40.9	0		
21/12/2019	18.9	42.1	0		
22/12/2019	17.3	38.9	0		
23/12/2019	13.8	34.8	0		
24/12/2019		32.3	0		
25/12/2019	19.2	36.1	0		
26/12/2019	19.9	38.7	0		
27/12/2019	20.8	39.7	0		
28/12/2019	21	39.6	0		
29/12/2019	21.5	38	0		
30/12/2019	18.9	41.3	0		
31/12/2019	21.5	38.1	0		
1/01/2020	16.5	33	0		
2/01/2020	15.5	35	0		
3/01/2020	15.5	38.5	0		
4/01/2020	19.5	45	0		
5/01/2020	21	26	0		
6/01/2020	16.5	26.5	0.4		
7/01/2020	17	36	0		
8/01/2020	20.5	37.8	0		
9/01/2020	19.6	31.4	0		
10/01/2020	19.4	42.2	0		
11/01/2020	16.3	31.3	0		

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
12/01/2020	16.8	26.8	0		
13/01/2020	15	30	0		
14/01/2020	16.5		0		
15/01/2020			0		
16/01/2020		35.5	0		
17/01/2020	18.5	28	0.8		
18/01/2020	19	30	0		
19/01/2020	17.5	34.5	0		
20/01/2020	16.5	28.1	5		
21/01/2020	15.4	28.8	0		
22/01/2020	13.4	35.5	0		
23/01/2020	16.5	35.6	0		
24/01/2020	14.6		3		
25/01/2020	15	34	0		
26/01/2020	16	34.5	0		
27/01/2020	18.5	35.7	0		
28/01/2020	19.4	34.5	0		
29/01/2020	17.8	36.6	0		
30/01/2020	19.4	41.2	0		
31/01/2020	18.8	45.6	0		
1/02/2020		44.3	0		
2/02/2020	28.6	35.1	0		
3/02/2020	13.6	27	0		
4/02/2020	12	28.7	0		
5/02/2020	14.7	34.5	0		
6/02/2020	16	26.4	0		
7/02/2020	19.7	27	2		
8/02/2020	19.1	25.4	1.4		
9/02/2020	17.7		3.6		
10/2/2020		29	34		
11/02/2020	18	29	6.6		
12/02/2020	18.5	31	0.2		
13/02/2020	21	28.5	0		
14/02/2020	19.5	31.5	0		
15/02/2020	19.5	32.5	0		
16/02/2020	17.5	30	0		
17/02/2020	19	31.4	0		
18/02/2020	20.2	33.1	0		
19/02/2020	15.5	22.7	0.8		
20/02/2020	10.7	28.8	0		
21/02/2020	12.3	31.7	0		
22/02/2020	14.9	29.8	0		
23/02/2020	16.6	30	0		

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
24/02/2020	17	34	0		
25/02/2020	17.6	32.5	0		
26/02/2020	18	29.5	0		
27/02/2020	9.8	25.9	0		
28/02/2020	9	28.9	0		
16/10/2020	14	26	3		
17/10/2020	12	22	3.8		
18/10/2020	12	20	7.6		
19/10/2020	10.5		0		
20/10/2020		22.5	0.2		
21/10/2020	9.5	25	0		
22/10/2020	11.5	26	0		
23/10/2020	12	27.5	0		
24/10/2020	13	21	15.2		
25/10/2020	9.5	15.5	0		
26/10/2020	8.5	15	3.8		
27/10/2020	9	17.5	3.6		
28/10/2020	10.5	21	0.2		
29/10/2020	11		0		
30/10/2020		22.5	0		
31/10/2020	9.5	16	34.8		
1/11/2020	10.5	24.5	14.6		
2/11/2020	10.5	23	0		
3/11/2020	11.5	24.9	0		
4/11/2020	11.8	26.6	0		
5/11/2020	13.2		6.8		
6/11/2020		20.5	4.6		
7/11/2020	7.8	22.6	0		
8/11/2020	9.9		0		
9/11/2020		23.5	0		
10/11/2020	11	28	0		
11/11/2020	11.5		0		
12/11/2020		21	0.2		
13/11/2020	15.5	24	10		
14/11/2020	9	23	0.2		
15/11/2020	9.5	29.7	0		
16/11/2020	13.5	25.5	0		
17/11/2020	9	25	0		
18/11/2020	13.5	27.5	0		
19/11/2020	13.5	31	0		
20/11/2020	15.5	35	0		
21/11/2020	16	30.5	0		
22/11/2020	17	27	0		

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
23/11/2020	18	21.5	22.6		
24/11/2020	14	27	6		
25/11/2020	16	27	0.2		
26/11/2020	14.5	31.5	0		
27/11/2020	16.5	33.2	0		
22/02/2021	13	29.1	0	E 5	NNW 18
23/02/2021	12.8	21.4	0	SE 20	S 18
24/02/2021	6.6	19.7	0	SSE 11	E 22
25/02/2021	13.4	24.1	0	SW 8	NW 19
26/02/2021	5.8	26	0	NNE 10	NW 21
8/03/2021	16.5	31.4	0	E 11	W 30
9/03/2021	12.1	27.9	0	WSW 11	W 20
10/03/2021	10.7	31	0	E 17	NW 9
11/03/2021	18.7	25.8	0	E 20	SE 17
12/03/2021	17.5	29.1	27.4	ENE 11	NW 9
15/03/2021	9.9	23.9	0	ESE 13	SW 11
16/03/2021	11	25.4	2	ENE 22	ENE 20
17/03/2021	15.3	22.5	0	E 24	E 31
18/03/2021	15.7	25.3	0	ESE 7	ENE 28
22/03/2021	16.7	19.5	10.4	ESE 13	ENE 33
23/03/2021	16.3	19.3	32.2	E 24	SE 11
24/03/2021	16.7	20.4	29.8	WNW 19	WNW 28
25/03/2021	16	22.5	4.8	WSW 19	W 26
26/03/2021	8.8	22.8	0	ENE 2	WSW 9
27/03/2021	12.9	23.4	0	NE 9	WNW 30
28/03/2021	8.1	22	0	ENE 4	SW 17
29/03/2021	6.3	23.5	0	Calm 0	WSW 19
30/03/2021	7.5	24.4	0	E 2	S 9
31/03/2021	9.1	25.2	0	E 7	ENE 7
1/04/2021	9.4	26.2	0	ESE 6	WSW 4
2/04/2021	12.9	28.6	0	ESE 11	S 4
3/04/2021	12	28.3	0	E 7	WSW 7
4/04/2021	9.9	28.4	0	E 9	WSW 11
5/04/2021	10.9	30	0	E 7	ENE 6
6/04/2021	17.9	28.5	0	NE 19	NE 9
7/04/2021	15.3	27.2	0	ENE 13	SSE 4
8/04/2021	12.6	27.6	0	E 17	NNE 4
9/04/2021	14	23.6	0	NNW 7	Calm
10/04/2021	8.8	17.6	0	W 13	W 20
11/04/2021	6.4	15	0	WSW 26	SW 31
12/04/2021	3.7	17.6	0	W 6	SSW 11
13/04/2021	2.7	21.5	0	E 15	NNW 13
14/04/2021	11.4	23.6	0	N 7	WSW 24

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
15/04/2021	4.7	19.6	0	NNW 2	WSW 22
16/04/2021	3.1	20.7	0	ENE 6	WSW 13
19/04/2021	1.3	20.2	0	ENE 9	SW 9
20/04/2021	5.4	22	0	E 4	WNW 22
21/04/2021	4.3	16.8	0.8	ESE 4	W 11
22/04/2021	-0.4	16.5	0	Calm	WSW 24
23/04/2021	5.2	18.9	0	WNW 6	WSW 24
24/04/2021	1.4	19.4	0	ENE 4	SW 20
25/04/2021	0.7	20.4	0	ENE 4	WSW 19
26/04/2021	1.2	20.2	0	ENE 9	WNW 11
27/04/2021	1.9	22.1	0	ESE 13	SW 7
28/04/2021	4.9	23.1	0	E 15	SSW 7
29/04/2021	4.7	23.5	0	E 11	W 7
30/04/2021	6.2	24.3	0	ESE 13	WSW 2
1/05/2021	7.5	24.1	0	ENE 13	NE 9
2/05/2021	9.5	24.5	0	ESE 11	N 7
3/05/2021	9.4	25.7	0	E 11	NW 20
4/05/2021	10.7	15.8	1.2	Calm	WSW 15
5/05/2021	11.3	23.6	1.6	ESE 11	S 26
6/05/2021	10.2	25.1	0	SSW 7	SSE 24
7/05/2021	10.9	25.5	0	SW 7	SW 20
8/05/2021	7.7	22.3	0	NE 2	NW 13
9/05/2021	7.5	21.6	0	NE 9	SW 9
10/05/2021	7.5	21.6	0	NNW 2	NW 19
11/05/2021	10.6	15.6	10	NNW 13	WSW 4
12/05/2021	7.7	20.4	3.4	ENE 9	NNE 9
13/05/2021	5.1	18.6	0	Calm	WSW 17
14/05/2021	6	14.1	0	W 15	WSW 19
15/05/2021	6.7	13.5	0	WSW 39	SW 37
16/05/2021	-1	12.5	0	NNW 7	SW 20
17/05/2021	4.5	15.7	0	W 17	S 17
18/05/2021	-1.2	15.8	0	NE 9	W 17
19/05/2021	-0.2	17	0	E 13	Calm
20/05/2021	1.5	16.8	0	ESE 11	WSW 13
21/05/2021	1.7	19.4	0	ENE 9	ESE 9
22/05/2021	3.5	19.5	0	E 15	SW 7
23/05/2021	3.5	19.9	0	ESE 9	ENE 7
24/05/2021	5.7	20.8	0	E 20	E 13
25/05/2021	9.7	21.8	0	ENE 22	NNE 28
26/05/2021	7.3	13.7	15.6	WNW 9	W 26
27/05/2021	1	14.2	0.2	W 6	WSW 19
28/05/2021	4.9	14.7	0	SW13	Calm
20/07/2021	5.1	11.1	2	NNE 9	NW 20

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
21/07/2021	1.9	10.8	4.8	WSW 20	WSW 20
22/07/2021	-2	12.2	0	ESE 15	NE 13
26/07/2021	5.4	14.9	7.4	NW 15	NW 22
27/07/2021	4.5	18.1	0.6	Calm	N 22
28/07/2021	9.2	14.3	0.2	N 15	NNW 17
29/07/2021	1.8	12.5	1.6	WNW 11	W 11
30/07/2021	1	13.4	0.2	E15	N 13
31/07/2021	4.8	18.6	0.2	E 15	NNW 19
1/08/2021	5.5	14	1.6	WNW 11	WSW 30
2/08/2021	-1.1	14.9	0	E 17	ENE 19
3/08/2021	5	12	1.6	WNW 17	WNW 20
4/08/2021	4.4	11	5.4	W 22	WSW 31
5/08/2021	6.7	12.2	0.4	WSW 22	WSW 22
6/08/2021	7.4	13.7	0	W 11	WSW 17
7/08/2021	8.4	12	0	WSW 13	WSW 15
8/08/2021	2	16	0	ESE 13	ENE 19
9/08/2021	4.3	17.2	0	E 11	N 15
10/08/2021	1.6	17.8	0	E 11	NW 19
11/08/2021	5.2	21	0	N 19	N 28
12/08/2021	4.3	13.6	4.2	W 13	SW 13
13/09/2021	2.9	14.1	2.2	SW 15	ENE 19
14/09/2021	0.3	16	0.8	E 13	WSW 19
15/09/2021	0	16.3	0	E 11	WSW 6
16/09/2021	0.9	18	0	E 15	NE 11
17/09/2021	1.9	20.3	0	ENE 19	NNE 13
18/09/2021	11.9	17	4.8	W 15	W 30
19/09/2021	0.7	18.5	0	N 6	WNW 24
20/09/2021	6.7	12.7	0	WNW 6	WNW 20
21/09/2021	2.6	14.5	0.8	SW 22	SW 22
22/09/2021	-0.4	15.9	0	NNW 7	WSW 19
23/09/2021	2.5	19.9	0	Calm	W 11
24/09/2021	3.7	23.6	0	NNW 9	W 35
25/09/2021	3	14.9	0	WSW 20	WSW 24
26/09/2021	1.1	17.4	0	E 15	NE 19
27/09/2021	4.7	18	0	ENE 20	NE 11
28/09/2021	8.9	20.4	7.8	NNW 11	NW 15
29/09/2021	12.6	20.5	19.4	WNW 13	WSW 22
30/09/2021	8	19.4	0	N 9	NNW 7
1/10/2021	10.6	17.6	0	WSW 28	W 15
2/10/2021	8.2	15.2	2.2	W 33	WSW 26
3/10/2021	1.4	20.4	0	E 9	SW 9
4/10/2021	8.6	18.4	0	NNW 17	W 31
5/10/2021	1.5	19.7	0	E 11	WNW 7

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
6/10/2021	6.5	26.2	0	E 15	NNW 19
7/10/2021	11	20.5	0	N 7	W 15
8/10/2021	4.8	18.1	0	ENE 6	NNE 9
9/10/2021	8.1	18.4	0	ESE 11	ENE 28
10/10/2021	10	18.8	0	ENE 28	NE 20
11/10/2021	8.6	20.4	5	ESE 2	N 17
12/10/2021	7.8	15.5	3.8	NNE 2	W 22
13/10/2021	9.1	18.3	5.6	WNW 30	WSW 35
14/10/2021	3.4	19.5	0	NW 2	W 13
15/10/2021	5.8	24.1	0	ESE 11	W 22
16/10/2021	8.2	20.2	0.4	W 15	SW 15
17/10/2021	4.9	24	0	SE 15	ESE 22
18/10/2021	7.5	22.8	0	E 13	E 11
19/10/2021	12.1	25.7	0	ENE 22	NE 11
20/10/2021	13.4	26	0	ENE 13	SSW 15
21/10/2021	6.2	20.2	0	SSE 2	Calm
22/10/2021	2	19.4	0	NNE 4	W 19
23/10/2021	1.6	23	0	ENE 9	W 11
24/10/2021	5	27.4	0	E 13	N 9
25/10/2021	11.8	27.9	0	E 15	ENE 24
26/10/2021	14.6	21.7	0	WNW 22	Calm
27/10/2021	3.6	18.8	0	E 6	SW 28
28/10/2021	0.9	22.7	0	E 7	NE 11
29/10/2021	8.9	20.4	7.8	NNW	
30/10/2021	12.6	20.5	19.4	WNW	
31/10/2021	8	19.4	0	N	
1/11/2021	5.2	26.8	0	E 13	ENE 11
2/11/2021	11.3	28.5	0	ENE 19	E 20
3/11/2021	15.8	26.8	0	NE 17	NNE 17
4/11/2021	16.8	21.6	25	ENE 11	E 15
5/11/2021	15.6	22.1	6.8	E 20	ENE 26
6/11/2021	14.6	27.1	0	ENE 17	N 19
7/11/2021	15.9	28.4	12.8	ENE 9	SSW 4
8/11/2021	14	25.2	0.2	NW 11	WSW 22
9/11/2021	7.4	25.7	0	ENE 9	W 13
10/11/2021	14.2	25.1	0.4	ESE 13	N 15
11/11/2021	5.6	23	0.6	SSE 15	E 13
12/11/2021	11.6	15.8	13.6	E 24	NW 28
13/11/2021	10.1	15.7	13.4	N 11	WSW 30
14/11/2021	7.6	16.4	1.2	WNW 20	NW 37
15/11/2021	6.3	16.6	7	W 28	W 39
16/11/2021	3.1	19.7	0.6	SW 19	SSW 15
17/11/2021	4.1	23.4	0	ENE 13	ESE 9

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
18/11/2021	7.9	27.1	0	ENE 11	NW 24
19/11/2021	16.8	21.8	0	NE 9	WNW 13
20/11/2021	13.9	18.1	6.4	SSW 11	SW 11
21/11/2021	12.9	23	2.2	E 11	NE 20
22/11/2021	8.2	23.8	0	E 28	E 20
23/11/2021	13.5	26	0	ENE 24	ENE 13
24/11/2021	17	21.8	3.2	E 20	ESE 17
25/11/2021	18	21.8	22	ENE 13	SSE 13
26/11/2021	15.1	16.7	12.4	SSE 28	SE 26
27/11/2021	12.6	21	30.6	SE 20	E 17
28/11/2021	9.3	23.8	0	E 26	ENE 15
29/11/2021	12	26.6	0	E 17	S 7
30/11/2021	14.3	29.5	0	E 17	E 9
1/12/2021	16.7	30.1	0	NE 9	SSW 7
2/12/2021	15.5	32.7	0.4	ENE 13	S 7
3/12/2021	16.9	31.3	0.2	ENE 9	W 17
4/12/2021	11.9	26.2	0	W 13	WSW 30
5/12/2021	13.2	25.1	0	ENE 28	ENE 22
6/12/2021	13.3	26	0	ENE 31	ENE 22
7/12/2021	16.7	29.5	0	NNE 15	WNW 15
8/12/2021	13	23.9	0	NW 15	W 26
9/12/2021	8.7	22.8	0	NNW 9	N 9
10/12/2021	11.8	22.2	6	SW 17	S 17
11/12/2021	10.8	26.1	0	E 15	NW 7
12/12/2021	10.1	27.2	0	E 19	NNE 7
13/12/2021	10.3	30.5	0	ENE 11	SE 7
14/12/2021	14.4	33.1	0	SE 11	NNW 11
15/12/2021	16.6	33	0	E 13	WSW 30
16/12/2021	11	28.5	2.4	NNW 6	WNW 13
17/12/2021	15.7	32.8	0	ENE 17	N 11
18/12/2021	20.4	38.7	0	NE 13	NNW 31
19/12/2021	20.9	23.4	5.8	N 13	N 37
20/12/2021	8.7	26.8	2.6	SSW 17	WSW 19
21/12/2021	9.5	31.6	0	E 9	WSW 17
22/12/2021	11.9	32.3	0	ENE 9	WSW 22
23/12/2021	13.6	32.1	0	E 11	WSW 22
24/12/2021	12.4	32.8	0	ENE 19	WNW 15
25/12/2021	14.8	34.3	0	ENE 15	S 20
26/12/2021	16.5	33.4	0	ENE 11	WSW 26
27/12/2021	16	27.3	0	E 26	E 17
28/12/2021	13.3	26.8	0	NE 17	SE 11
29/12/2021	12.1	29.6	0	E 19	NNE 9
30/12/2021	15.4	32.9	0	NE 9	NW 9

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
31/12/2021	14.9	34.2	0	NE 11	WSW 7
1/01/2022	16.8	36	0	ENE 15	WSW 6
2/01/2022	20	37.1	0	ENE 13	W 17
3/01/2022	17.7	36.2	1.8	ENE 17	SSE 13
4/01/2022	19.4	34.9	0	NE 17	N 9
5/01/2022	21.5	32.3	0	ENE 24	E 28
6/01/2022	17	25.2	21.2	ENE 22	SSW 35
7/01/2022	18	23.6	36.4	NE 15	ENE 13
8/01/2022	14	30.9	14.2	E 9	N 9
9/01/2022	18.5	33	0	E 24	ESE 6
10/01/2022	21.2	34.7	0	E 20	ENE 15
11/01/2022	22.5	29.4	0.8	N 13	ESE 11
12/01/2022	19.6	31.3	4.8	E 19	E 13
13/01/2022	18.5	30.6	0	E 30	ENE 24
14/01/2022	20.5	31.1	0	ENE 22	NNE 17
15/01/2022	21.8	31.8	0	NE 22	WNW 26
16/01/2022	14.9	33.2	0	ENE 9	WSW 15
17/01/2022	18.6	28.3	0	Calm	WSW 17
18/01/2022	19.4	30.4	0	E 9	NNW 11
19/01/2022	19.7	28.4	0.2	E 19	ENE 24
20/01/2022	11.4	27	0	E 20	ENE 30
21/01/2022	10.6	28.5	0	E 22	NE 19
22/01/2022	15	28.8	0	E 22	E 20
23/01/2022	15.7	29.7	0	ENE 24	NE 13
24/01/2022	17.9	30.2	0	E 20	NE 15
25/01/2022	20.1	32.3	0	ENE 13	S 6
26/01/2022	18.3	33.5	0	E 17	NE 17
27/01/2022	19.9	31.8	0	ENE 28	NE 22
28/01/2022	22.4	34.7	0	NE 11	ENE 20
29/01/2022	21.6	29.8	15	ESE 7	E 9
30/01/2022	21.7	32	1.8	E 20	NE 13
31/01/2022	18.7	32.9	7.2	E 15	SSE 7
1/02/2022	19.4	31.7	0	NNE 4	NW 13
2/02/2022	13	26.3	0	W 19	WSW 20
3/02/2022	12.7	25.4	0	SSE 11	SW 24
4/02/2022	8.8	26.7	0	SSE 13	ESE 20
5/02/2022	10.7	27.2	0	ESE 13	E 19
6/02/2022	10.8	27.5	0	E 17	ESE 19
7/02/2022	9.9	28	0	ESE 13	ESE 11
8/02/2022	10.2	28.1	0	ENE 11	SSE 7
9/02/2022	12.1	32.1	0	E 13	WSW 24
10/2/2022	16.8	34	0	E 11	WSW 13
11/02/2022	14.6	31.8	0	E 19	ENE 11

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
12/02/2022	15.6	29.8	0	E 15	ESE 9
13/02/2022	15.8	30.5	0	ENE 17	ENE 19
14/02/2022	16	33.7	0	E 17	S 6
15/02/2022	18.4	35.6	0	ENE 13	ENE 7
16/02/2022	20.8	34.6	0	NE 15	NNE 13
17/02/2022	20.8	32.7	0	NW 9	NW 26
18/02/2022	12.7	28.7	0	WNW 11	SSW 17
19/02/2022	12.5	31	0	ENE 30	ENE 20
20/02/2022	16.9	34.6	0	ENE 19	NW 19
21/02/2022	10.5	30.4	0	N 4	WSW 24
22/02/2022	15.4	31.4	0	ENE 30	ENE 17
23/02/2022	15.8	32.6	0	ESE 15	ENE 26
24/02/2022	22	32.3	0	ENE 22	E 15
25/02/2022	20.5	31	16.6	SE 15	SSE 20
26/02/2022	19.1	27.6	0	ESE 11	SSE 26
27/02/2022	16.3	30.7	0	ESE 19	SE 7
28/02/2022	19.7	32.6	0	E 22	ENE 17
1/03/2022	21.5	30.9	0	ENE 17	ENE 31
2/03/2022	18.6	26.2	16.8	E 20	ESE 31
3/03/2022	14.8	32.1	0	Calm	ESE 20
4/03/2022	16.2	33.2	0	E 7	WSW 11
5/03/2022	21.5	24.7	0	ENE 13	WSW 17
6/03/2022	15.7	30.9	15.6	SE 20	S 9
7/03/2022	16.6	31.9	0	SE 17	SW 9
8/03/2022	20.7	24.9	0	Calm	SSE 31
9/03/2022	17.2	27	0.2	SSE 6	S 15
10/03/2022	12.2	25.3	0	SE 17	SE 7
11/03/2022	11.3	26.6	0	E 17	S 9
12/03/2022	15.6	28.7	0	E 26	NE 17
13/03/2022	16.5	28.5	0	E 15	NNE 7
14/03/2022	15.8	29.6	0	E 15	ESE 11
15/03/2022	18.5	27.6	0	ENE 22	NE 17
16/03/2022	17.5	25.5	0.2	E 11	ENE 17
17/03/2022	18.1	28.5	0	ENE 13	ENE 6
18/03/2022	14.3	30.9	0	E 7	WSW 9
19/03/2022	17.3	31	0	ESE 7	SE 9
20/03/2022	15.1	31.6	0	ESE 9	NNW 11
21/03/2022	14.1	30.8	0	ENE 9	SSW 11
22/03/2022	15.4	33.9	0	E 15	WNW 17
23/03/2022	15.6	27.2	1.2	WSW 15	SW 20
24/03/2022	10.7	28.5	0	E 11	NNE 7
25/03/2022	13.6	29.2	0	ESE 11	SSE 13
26/03/2022	11.5	27.7	0	ESE 15	SE 13

Survey date	Temperature (°C)		Rainfall (mm)	Wind direction/ speed (KPH*)	
	Minimum	Maximum		9am	3pm
27/03/2022	13.9	27.2	0	SE 11	E 22
28/03/2022	14.8	28.7	0	NE 7	SSW 19
29/03/2022	13.8	30.1	0	ENE 6	S 7
30/03/2022	13.5	30	0	ENE 7	SW 22
31/03/2022	15.5	26.9	0	SSE 20	SSE 24
1/04/2022	6.2	23	0	S 19	SSE 22
2/04/2022	10.1	18.8	0	Calm	NNW 7
3/04/2022	12.7	19.8	4	NW 13	WSW 17
4/04/2022	7.7	24.4	1	WNW 7	WNW 22
5/04/2022	8	26.2	0	ENE 9	W 20
6/04/2022	10.1	25.2	0	E 17	NW 11
7/04/2022	14.9	22.4	3.6	ENE 15	E 31
8/04/2022	14.3	19.9	6.6	SE 13	NE 13
9/05/2022	2.6	19.3	0	ESE 9	ENE 9
10/05/2022	5.9	20.4	0	NE 9	ENE 30
11/05/2022	12	19.8	0	ENE 13	ENE 31
12/05/2022	13.6	17.3	10.2	E 19	E 17
13/05/2022	15.4	21.9	23.6	ENE 9	NNE 7
14/05/2022	13.3	21.5	0	ESE 9	WNW 15
15/05/2022	15.1	19.4	6.4	E 11	NW 17
16/05/2022	7.7	18.1	0.2	NNE 4	WNW 20
17/05/2022	4.7	16	0	NNW 7	W 19
18/05/2022	8.9	16.1	0	WNW 13	WSW 28
19/05/2022	1	15.5	0	E 6	SW 13
20/05/2022	1.5	17.2	0.2	E 11	ESE 13
21/05/2022	3.6	19.9	0	E 9	ENE 11
22/05/2022	5.7	20.8	0	ENE 9	N 7
23/05/2022	4.7	18.8	0	E 13	N 11
24/05/2022	4.4	19.2	0	N 2	E 15
25/05/2022	5.7	18.4	0	E 13	NE 13
26/05/2022	10	19.2	0	E 13	NNE 13
27/05/2022	10.8	18	5.8	E 11	Calm
28/05/2022	11	16	1.4	WNW 13	WSW 26
29/05/2022	1.6	13.9	0	NW 2	W 15
30/05/2022	4.8	9.8	0	E 24	NW 11
31/05/2022	7	11.3	25.2	W 31	WNW 33
1/06/2022	4.3	10.1	1.4	W 22	W 24
2/06/2022	2.4	12.2	0.2	NE 6	WSW 6
3/06/2022	3.8	9.9	0	E 13	E 6

* KPH: Kilometres per hour

Table A8- 2: Climatic conditions during the Golden Sun Moth flying season (2021/2022)

Date	Cloud cover (8ths)	Maximum daily temperature (°C)	Relative Humidity (%)	Rainfall (mm)	Wind	Optimal survey conditions
1/10/2021	7	21	71	13.6	Calm	No
2/10/2021	8	20	54	7.6	Calm	No
3/10/2021	8	19	100	11.4	Calm	No
4/10/2021	8	17.1	94	1.4	Calm	No
5/10/2021	8	14.1	87	4.8	NE	No
6/10/2021	0	19.2	97	0	SW	No
7/10/2021	0	21	59	0	Calm	No
8/10/2021	1	21.5	93	0	Calm	No
9/10/2021	0	24.5	73	0	Calm	Yes
10/10/2021	8	23.2	82	0	Calm	No
11/10/2021	6	17.7	70	1.6	Calm	No
12/10/2021	8	14.7	70	0	Calm	No
13/10/2021	8	15.2	86	0.6	NE	No
14/10/2021	8	17.6	94	19	Calm	No
15/10/2021	8	15.1	96	2.6	Calm	No
16/10/2021	8		86	13.6	SE	No
17/10/2021		17.5		0		No
18/10/2021	1	22.2	93	0	Calm	No
19/10/2021	3	22.3	77	0	SE	No
20/10/2021	2	20.7	89	0.8	NE	No
21/10/2021	3	22	83	0	Calm	No
22/10/2021	4	26	88	0	Calm	Yes
23/10/2021	4	27	94	0	Calm	Yes
24/10/2021	1	19.5	66	0	Calm	No
25/10/2021		19	86	0		No
26/10/2021	0	23	93	0	Calm	No
27/10/2021	1	24.8	93	0	Calm	Yes
28/10/2021	3	27.5	100	0		Yes
29/10/2021	6	21	100	0	Calm	No
30/10/2021	0	18.5	100	0	Calm	No
31/10/2021	0	23.8	100	0		Yes
1/11/2021	4	25	79	0	Calm	Yes
2/11/2021	0	26.5	94	0	Calm	Yes
3/11/2021	2	25.5	85	0	Calm	Yes
4/11/2021	8	17.6	90	14.2	Calm	No
5/11/2021	8	21.6	90	25.4	NE	No
6/11/2021	6	24.4	69	1.2	Calm	No
7/11/2021	4	27	84	33	Calm	No
8/11/2021	5	25	95	1.6	Calm	No

Date	Cloud cover (8ths)	Maximum daily temperature (°C)	Relative Humidity (%)	Rainfall (mm)	Wind	Optimal survey conditions
9/11/2021	1	24	95	0	Calm	No
10/11/2021	8	22.7	89	0	Calm	No
11/11/2021	3	24	88	1	Calm	No
12/11/2021	8	16	94	25.8	NE	No
13/11/2021	8	15	93	29.5		No
14/11/2021	7	14.5	93	9		No
15/11/2021	8	14	93	8.4		No
16/11/2021	0	18.5	80	1	Calm	No
17/11/2021	0	23.5	90	0	Calm	No
18/11/2021	0	25.5	87	0	Calm	No
19/11/2021	8	25	62	0		No
20/11/2021	8	17.5	100	3.2	Calm	No
21/11/2021	8	18.5	88	4.2		No
22/11/2021	1	21	67	0		No
23/11/2021	8	24.5	84	0	Calm	No
24/11/2021	7	21.9	87	0	Calm	No
25/11/2021	7		93	13.2	Calm	No
26/11/2021		16.6				No
27/11/2021	8	19	77	3.5		No
28/11/2021	3	20.7	66	0		No
29/11/2021	1	26.7	88	0	NE	No
30/11/2021	1	31	88	0	Calm	Yes
1/12/2021	2	28.5	84	0	Calm	Yes
2/12/2021	1	30.5	77	1.6	Calm	No
3/12/2021	0	31.5	77	0	Calm	Yes
4/12/2021	2	25.5	85	0	Calm	Yes
5/12/2021	7	22.3	78	0	E	No
6/12/2021	8	24.3	72	0	Calm	No
7/12/2021	6	27.3	83	0	Calm	Yes
8/12/2021	8		85	0	Calm	No
9/12/2021		23.5				No
10/12/2021	8	19	94	21	Calm	No
11/12/2021	0	23	81	1.6	Calm	No
12/12/2021	0	28	83	0	Calm	No
13/12/2021	8	28.5	89	0	Calm	No
14/12/2021	3	32.7	82	0	Calm	Yes
15/12/2021	0	33.2	90	0	Calm	Yes
16/12/2021	3	28.2	91	0	Calm	Yes
17/12/2021	5	31.2	72	0	NE	Yes
18/12/2021	3	34.3	77	0	Calm	Yes

Date	Cloud cover (8ths)	Maximum daily temperature (°C)	Relative Humidity (%)	Rainfall (mm)	Wind	Optimal survey conditions
19/12/2021	5	23.3	78	19.2	Calm	No
20/12/2021	1	25.8	90	26.2		No
21/12/2021	0	29.8	84	0	Calm	No
22/12/2021	3	31.3	79	0	NE	No
23/12/2021	8	30.5	78	0	Calm	No
24/12/2021	8	32.5	81	0	Calm	No
25/12/2021	1	34	95	0	Calm	Yes
26/12/2021	1	33	81	0	Calm	Yes
27/12/2021	8	22	74	0	E	No
28/12/2021	1	24	72	0	E	No
29/12/2021	0	28	82	0	Calm	Yes
30/12/2021	0	33	85	0		Yes
31/12/2021	0	33	81	0	Calm	Yes
1/01/2022	0	33	70	0	Calm	Yes
2/01/2022	0	35.5	85	0	Calm	Yes
3/01/2022	0	33	70	0	Calm	Yes
4/01/2022	0	31	91	0	Calm	Yes
5/01/2022	4	31	91	0	NE	No
6/01/2022	6	32	100	0		No
7/01/2022	3	22.5	90	96	Calm	No
8/01/2022	8	29.5	95	26	Calm	No
9/01/2022	4	29.8	77	0		No
10/01/2022		34.5	77	0	Calm	No
11/01/2022	4	28	79	0	Calm	No
12/01/2022	3	29.5	81	0	E	No
13/01/2022	1	29.5	72	0	E	No
14/01/2022	8	30.5	77	0	Calm	No
15/01/2022	8	30	95	9.4	Calm	No
16/01/2022	1	32	85	21.6	Calm	No
17/01/2022	3	28	99	0	Calm	No
18/01/2022	8	24.5	82	0	Calm	No
19/01/2022	3	25.7	80	2	NE	No
20/01/2022	3	23.5	62	0		No
21/01/2022	2	25	75	0	E	No
22/01/2022	0	27	89	0	Calm	Yes
23/01/2022	3	27.3	85	0	Calm	Yes
24/01/2022	6	27.7	73	0	Calm	Yes
25/01/2022	5	32.7	85	0	Calm	Yes
26/01/2022	2	30.7	83	0	Calm	Yes
27/01/2022	4	30.8	68	0	Calm	Yes

Date	Cloud cover (8ths)	Maximum daily temperature (°C)	Relative Humidity (%)	Rainfall (mm)	Wind	Optimal survey conditions
28/01/2022	8	29.8	92	0.8	Calm	No
29/01/2022	8	25	95	21	Calm	No
30/01/2022	8	30	85	9.2	Calm	No
31/01/2022	8	31.3	95	15.8	Calm	No
Total number of days (flying season)						123
Number of suitable days						34
Percent of suitable days						**28%**

Attachment 9: Golden Sun Moth Expert Report

2 August 2023

HumeLink Project– Golden Sun Moth Expert Report

Alison Rowell
BIOLOGIST AND ENVIRONMENT CONSULTANT
PO BOX 777 DICKSON ACT 2602

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1. Expert report - Alison Rowell, Biologist and Environmental Consultant.

Alison Rowell has worked as a consultant since 1992, specialising in threatened species in woodlands and grasslands in south-east NSW and the ACT, and has become technically adept in assessments of the Golden Sun Moth (*Synemon plana*) throughout this period.

She has carried out many surveys of the Golden Sun Moth (GSM) and its habitat, assessing the size and significance of populations and the extent and quality of habitat, and developing site management plans.

Methods used include walked transect and fixed-point surveys for flying males, retrieval of larvae, pupal case surveys, mark-release-recapture surveys, and broad and fine-scale habitat measurement and mapping. Sites assessed vary from very small to greater than 100 hectares, and include highway and light rail projects, and solar and wind farms.

Alison Rowell has also written policy documents and guidelines for Australian Capital Territory (ACT) government (including the ACT GSM Action Plan), Environmental Management Plans for GSM Offset sites and has contributed to GSM population biology research with others.

2. Golden Sun Moth (*Synemon plana*)

2.1 Conservation status

The Golden Sun Moth (GSM) was listed as critically endangered under the EPBC Act in 2002, then relisted to vulnerable in 2021. The relisting followed a review of its status, which found a significant increase in the last 20 years in its known extent of occurrence, area of occupancy and number of subpopulations (DAWE 2021). The species is now listed as vulnerable in New South Wales (NSW)(2022), Victoria (2022) and the ACT (2023).

No Commonwealth recovery plan was prepared for the GSM while it was listed as critically endangered, and when relisted as vulnerable it was recommended that there not be a recovery plan for the species.

The *Matters of National Environmental Significance significant impact guidelines 1.1* are therefore the relevant significant impact guidelines for the GSM (DOE 2013). The guidelines state that habitat critical to the survival of a species refers to areas that are necessary for activities such as foraging, breeding, roosting, or dispersal; for the long-term maintenance of the species; to maintain genetic diversity and long-term evolutionary development; or for the reintroduction of populations or recovery of the species.

Habitat critical to the survival of the Golden Sun Moth has yet to be identified but is likely to include all native grassland and open grassy woodland habitat occupied by the species. Due to its specialised habitat requirements and fragmented distribution, all occupied habitat is important for the breeding activity of subpopulations and the recovery of the species.

Large subpopulations or small well-connected subpopulations in high quality habitat would have higher ecological importance than small, discrete populations. High quality habitat would be made up of medium to large sites containing a grassy native ground layer with abundant larval food species, with low weed cover, inter-tussock spaces, and land management consistent with maintaining GSM habitat value. Sites near the limit of the species range, or a long distance from other known subpopulations are also likely to be important in conserving the full range of genetic diversity. Survey effort in southern NSW is still considered to be insufficient, mainly because the majority of habitat occurs on private land, therefore the true extent of their range and distribution within it is unconfirmed.

2.2 Description and biology

Unless otherwise stated, the information on the species in the sections below is drawn from the ACT GSM Action Plan (ACT Government 2017), the recent conservation advice (DAWE 2021), the NSW threatened species profile Golden Sun Moth - South Eastern Highlands: Distribution and vegetation associations | NSW Environment, Energy and Science and the personal experience of Alison Rowell.

The Golden Sun Moth (*Synemon plana* Walker 1854), is a medium-sized day-flying moth in the family Castniidae. Adult GSM have clubbed antennae (like butterflies) and no functional mouthparts, with the adults only living 1-2 days after emergence. Males and females differ in appearance and behaviour. The wingspan is 34 mm in males and 31 mm in females, and the abdomen of the female extends beyond the wings at rest. Males can fly for extended periods and distances, while the heavier females mainly walk or flutter short distances. Males are grey below and females are white. The upperside of the forewing is dark with pale grey patterning in both sexes, while in the male the hindwing is bronze and in females is bright yellow orange with black marginal spots.

GSM larvae develop underground where they are associated with the roots of a few species of grasses, mainly Wallaby grasses (*Rytidosperma* spp.), and to a lesser extent Speargrasses (*Austrostipa* spp.). Larvae are cream-coloured and late instars have a red-brown head capsule. The larvae pupate after developing for 1-2 years underground, and adults emerge on warm dry sunny days in spring and early summer, leaving the upper half of the empty red-brown pupal cases protruding from the soil near tussock bases.

In ACT/NSW populations, the flying period is usually between mid-October and early January, with a peak from mid-November to early December. The most reliable method of detecting GSM is searching for the males, which fly continuously during the warmest part of the day in search of females. The start and end dates of the flying season vary with rainfall and overnight temperatures, and numbers of adults recorded at a site during a season also varies greatly from year to year based on data compiled by A. Rowell from and for ACT and NSW government staff, researchers and consultants (ACT Government, 2015; Richter et al., 2013; Rowell & Evans, 2014; Rowell, 2019; Rowell, 2023; Zenviron, Tilt & Umwelt, 2022).

GSM was originally widespread in south-eastern Australia in native grasslands and open woodlands with a high component of Wallaby grasses. Moderate to high cover of the larval food plants is desirable due to the low mobility and short life span of the female, which walks or flutters between tussocks to lay eggs, and because larvae are likely to be able to move only a limited distance through soil if unable to complete their development on the roots of a single tussock.

Most of the ACT/NSW populations lie within a band about 130 km long and 40 km wide, running from the Queanbeyan to Boorowa districts, and most known sites are small and/or fragmented. Five major genetic clusters have been identified across ACT, NSW and Victoria, and genetic variation increases with the geographic distance between populations.

Relatively dry and open grassland within the Natural Temperate Grassland of the South Eastern Highlands community, which is listed as critically endangered under the EPBC Act, is thought to be the species' original preferred habitat. However, many such areas supporting this community have been destroyed or degraded since European settlement.

Grasslands, which have not been ploughed, heavily grazed or pasture-improved tend to retain cryptogams, bare ground and native forbs. They usually contain fewer exotic species and have lower and more stable biomass. They also retain the shorter species of Wallaby Grasses (*R. carphoides, R. auriculatum, R. laeve*), while more disturbed grasslands often contain more robust 'native pasture' species such as *R. caespitosum* and *Austrostipa bigeniculata* (SMEC, 2018). Small tussocks provide shelter and sites for larval development, and inter-tussock spaces are used for basking and for females to display and attract mates.

GSM are now found in native grassland, native pasture, open woodlands with a grassy understorey and secondary grasslands. It is likely that populations have spread into secondary grasslands after partial or complete clearing of trees, but these habitats usually support fewer moths than primary grassland. GSM also occurs in former dry forest communities where these were close to native grasslands and open woodlands. The density of Wallaby Grasses in secondary grassland tends to vary considerably at a small scale, with patches of high density scattered across sites.

GSM larvae have also been found among the roots of two introduced grasses, Chilean Needlegrass and Serrated Tussock. These grasses are however usually associated with disturbance and other weeds, and often develop high biomass if not grazed.

3. GSM in the HumeLink project area

The project occurs within two Interim Biogeographic Regionalisation of Australia (IBRA) regions known to contain GSM:

- South-Eastern Highlands region: Murrumbateman subregion
- NSW South-Western Slopes region: Inland Slopes subregion

The distribution of GSM records in NSW on the BioNet Atlas Database is shown in Figure 1. Note the isolated record near Tumut (Gocup), which is 70 km west of the most westerly record (Washpen) in the main cluster.

In these two IBRA subregions, GSM is associated with several vegetation formations including grasslands, grassy woodlands and dry sclerophyll forests, or grassy communities derived from these by clearing of trees. Many Plant Community Types (PCTs) within those formations have been identified as potential GSM habitat (BioNet and GSM threatened species profile on Office of Environment and Heritage (OEH) website).

The PCTs listed by OEH as being associated with the Inland Slopes subregion probably refer to the western sites of the northern half of the cluster of populations around Boorowa-Bowning (north of the project footprint) rather than the outlying Tumut site. This site is also only 3 km inside the Inland Slopes subregion and was not visited.

This report assesses the project footprint, the area within which direct impacts could occur from the project. The project footprint includes an indicative disturbance area, which is an estimated area to be directly disturbed during construction and operation of the project based on an indicative concept design and construction methodology. However, the indicative disturbance area may be subject to change during the detailed design phase with the potential for future impact avoidance and minimisation to be realised at this time. Biodiversity assessment activities (e.g. vegetation and habitat assessment) have been conducted throughout accessible areas of the project footprint with certain targeted survey activities occurring within the indicative disturbance area, which is the area used for all clearing and impact calculations.

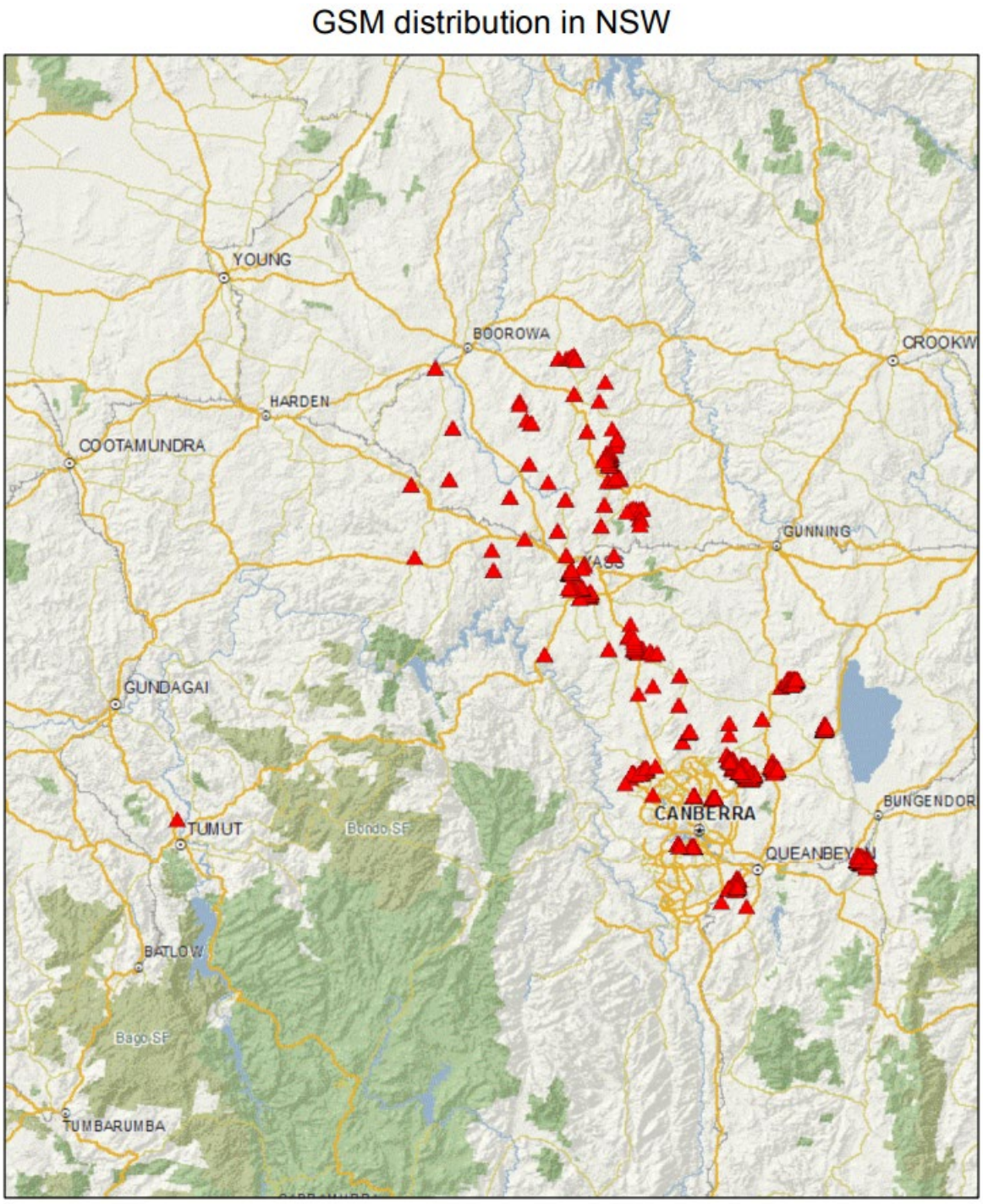

Figure 1. GSM distribution in NSW (from NSW BioNet Atlas Database)

4. Expert report approach

Broad GSM habitat polygons were to be delineated using vegetation community (PCT) mapping and floristic and condition score data previously collected from BAM plots in potentially suitable GSM habitat in the project footprint. These data would then be reviewed against data from 100 metre point intercept GSM habitat assessment transects from areas provisionally identified as suitable or unsuitable habitat based on proximity to known GSM sites and the vegetation community present.

A subset of the above sites across the project footprint in the Murrumbateman and Inland Slopes IBRA subregions was visited in November-December 2022 to undertake field evaluation of the above data.

A set of parameters indicating the potential for habitat to support Golden Sun Moth populations was then developed based on the collected data, GSM literature and Alison Rowell's knowledge.

Literature consulted is listed in Table 1.

5. Habitat assessment methods

The GSM habitat assessment incorporated best practice survey methods and habitat quality classification parameters to inform the creation of GSM habitat polygons identifying potential habitat within the indicative disturbance area. Relevant databases and scientific literature (Table 1) were reviewed prior to undertaking the field survey to identify data gaps and inform survey design.

5.1 Niche and Ecoresolve data collected in 2021

The initial delineation of potential habitat used the vegetation community (PCT) mapping to locate PCTs known to be associated with GSM in the Murrumbateman and Inland Slopes IBRA subregions (BioNet and DPE threatened species online profile 2023) and related these to previous GSM records from the NSW BioNet Atlas Database. This was followed by measurement of GSM habitat transects and visual surveys for flying GSM in potential habitat. Site photographs were taken in many cases and provided to Niche Environment & Heritage (Niche) for review.

GSM habitat assessment coverage throughout the Murrumbateman IBRA subregion was generally good (DAWE, 2021), with 60 habitat transects assessed (i.e. average 1 transect / 0.69 ha of potential habitat). The majority of known GSM records relevant to the project occur within this region and these habitats are therefore considered to have the highest potential for supporting GSM.

Within the Inland Slopes IBRA subregion, GSM habitat assessment coverage was lower (average ca. 1 transect / 1.8 ha of potential habitat) due to issues with private property access and other survey limitations. However, many parts of this region within the project footprint (predominantly the south-western section) do not coincide with the known range of GSM. The only known GSM record close to where the HumeLink alignment passes through the Inland Slopes subregion is a single site 3 km south of the footprint near Tumut. This population is 70 km west of the cluster of populations in the Murrumbateman subregion and has been identified as genetically distinct from this population, with no intermediate populations having been found 'within a 70 km radius despite extensive searching over a number of years' (Clarke & Whyte, 2003). The population near Tumut appears more closely related to Victorian populations than to the ACT/Yass/Murrumbateman cluster, which also suggests that there are unlikely to be stepping-stone populations between the Tumut site and the nearest Murrumbateman cluster (or they would probably share more genes). It is therefore thought to be unlikely that the project footprint would intersect with any stepping-stone populations within the Inland Slopes IBRA subregion.

5.2 Data assessment in 2022

In November-December 2022, Alison Rowell accompanied Arne Bishop of Ecoresolve to inspect a selection of sites in the Inland Slopes and Murrumbateman IBRA subregions that had received positive and negative assessments for GSM habitat suitability, supplementing field surveys conducted the year prior. Photographs were taken of vegetation condition, and plant species lists were made to check against previous data collected, with an emphasis on recording species and conditions both positively and negatively associated with GSM habitat. Notes were made on patch size and connectivity, and site characteristics such as slope, aspect, rocks, pasture improvement, weediness, site management, rockiness and other signs of recent and past disturbance.

The method used for assessing GSM habitat presence and quality in the field was based on that used in the northern ACT and developed by Alison in conjunction with SMEC for ACT government (SMEC, 2018a; SMEC, 2019) (below refer to Section 5.4 – 5.5).). The SMEC (2019) habitat condition classes were adapted to accommodate the conditions of the current project, as that classification did not allow for survey in grassy areas cleared from open forest communities, or the temporary biomass, weed and litter loads that were present in 2021-22 after two years of a La Nina weather system. Similarities in vegetation composition, structure and condition to nearby GSM sites where Alison has worked were noted. This includes Bango wind farm, Springdale solar farm, the Barton Highway duplication in NSW, and areas across the northern ACT.

After the site visits, the data was reviewed in GIS along with previously collected GSM data. As genera and functional plant/habitat attributes (rather than species) were recorded in the GSM habitat transects, it was necessary to review the nearest BAM plots and photographs to determine which actual species may have occurred on the GSM habitat transects, and to examine site photographs for further information on habitat condition.

PCTs present in the project footprint that were considered to be associated with this species include PCT 266, 277, 352 and 1330. In additional to the known primary PCT habitat associations of grasslands and open grassy woodlands, the following PCTs were also considered to provide suitable habitat opportunities for GSM in some locations within Murrumbateman: PCT 1093, 351, and 287. These are open forest vegetation types containing Red Stringybark and/or Brittle Gum, and the potential GSM habitat occurred in openings in the forest/woodland or where the trees had been cleared. Some of these open forest vegetation types are listed on the OEH GSM profile as having potential as habitat and GSM have been recorded in them during other projects in the Murrumbateman subregion and in the northern part of the ACT.

Some sites that were considered to be potential GSM habitat have been assessed based on their proximity to known GSM sites and the presence of suitable larval food grasses at the site (or in nearby BAM plots) rather than being strictly confined to the PCTs listed as being associated with GSM.

In consultation with Chani Wheeler of Niche, a series of filters for GSM attributes was developed to be applied to the data to refine the definition of potential GSM habitat in the project footprint.

After potential GSM habitat was identified in this way, further analysis was undertaken on data at the subsite level, reviewing more plot and transect data, photographs and Google Earth imagery of various ages to identify habitat attributes and likely disturbances such as tree regeneration, ploughing and pasture improvement.

A conservative approach to delineating potential GSM habitats was adopted in areas where data was deficient. In these locations, potential habitats were considered suitable for the species where they supported a known PCT association, intersected the known range of the species and aerial photo examination did not suggest the presence of dense woody vegetation or wetlands. GSM are known to occupy exotic grasslands containing Chilean Needle Grass, but exotic grasslands were excluded from consideration given the general lack of Chilean Needle Grass observations within the project footprint (based on the review of available plot and habitat assessment data).

The methods used to collect data and the way the assessment was undertaken are described in the text boxes below.

5.3 GSM habitat transects

Niche and Ecoresolve undertook 93 100m step-point transects in areas of potential Golden Sun Moth habitat. A dominant habitat feature was recorded at each 1 m interval of the transect, from the following list:

- Bare earth/soils
- Cryptogams
- Litter/dead vegetation
- Perennial native grass – Other
- Perennial native grass – *Austrostipa* spp.
- Perennial native grass – *Rytidosperma* spp.
- Other native grass (non-Golden Sun Moth food)
- Exotic Golden Sun Moth food plants – Other
- Exotic Golden Sun Moth food plants – Chilean Needle Grass
- Exotic Golden Sun Moth food plants – Serrated Tussock
- Perennial exotic grass (non-Golden Sun Moth food)
- Annual exotic grass
- Exotic forbs.

The list above does not record native forbs (good indicators of the amount of past disturbance), and there is a possible duplication of categories with 'perennial native grass – other' and 'other native grass (non-Golden Sun Moth food)'.

The lack of species identification in the larval food plant categories means that the presence of large tussock grasses in the same genera as food plants (but not known to be used by GSM larvae) can affect the determination of habitat suitability. These include *Austrostipa densiflora* and *Rytidosperma pallidum* (both associated with open forest more than primary grasslands). Species lists from nearby BAM plots and photographs from plots and transects were used to identify these and to therefore remove some sites from the GSM potential habitat list.

5.4 GSM habitat quality classification (adapted from SMEC, 2019)

High-quality habitat (none seen in project footprint)

Primary Natural Temperate Grasslands (NTG) or native pasture dominated by native larval food plants i.e. smaller *Rytidosperma* spp. and/or *Austrostipa* spp.), with low weed cover and some bare ground. Most (but not necessarily all) of the following minimum values should be met:

- 10% cover *Rytidosperma* spp. or 15% cover *Rytidosperma* spp. and *Austrostipa* spp. combined
- >5% bare ground
- < 5% exotic broadleaf
- Low to moderate biomass
- Litter sparse to moderate (<25% cover of litter)
- Moderate to high native plant diversity (>12 native species per 20m x 20m area)

Moderate-quality habitat

Primary (none identified in project footprint) or secondary grassland, with a moderate component of smaller *Rytidosperma* spp. and/or *Austrostipa* spp., and/or moderate weed cover. Most (but not necessarily all) of the following minimum values should be met:

- 5% cover *Rytidosperma* spp. or 10% cover *Rytidosperma* spp. and/or *Austrostipa* spp. combined
- 3% bare ground
- < 10% exotic broadleaf
- Low to moderate biomass
- Litter sparse to moderate (<25% cover of litter)
- Moderate native plant diversity (>8 native species per 20m x 20m area)

Low-quality habitat

Larval food plants (*Rytidosperma* spp., *Austrostipa* spp. and/or Chilean Needle Grass) are a minor component of the ground layer, growing sparsely or in patches among unsuitable vegetation (i.e. not larval food species), and other minimum values are met:

- *Rytidosperma* spp. present
- 10% cover *Rytidosperma* spp. and/or *Austrostipa* spp. combined
- < 20% broadleaf

Chilean Needle Grass (CNG) dominated habitat (none seen in project footprint)

Grassland dominated by Chilean needle grass.

5.5 General characteristics of biomass classes (adapted from SMEC, 2019)

For all GSM habitat condition classes, the ideal biomass condition is low to medium, i.e. most areas without dense thatch or tall dense tussock grasses over 10 cm high.

Sites were not excluded due to higher than desirable biomass or weed cover if this was assessed to be a temporary condition associated with the previous La Nina seasons.

Very low biomass

- Tussocks up to 5 cm high
- bare ground very common between tussocks
- litter layer sparse/absent
- average grass sward height less than 4 cm

Low biomass

- Tussocks up to 10 cm high
- bare ground common between tussocks
- litter layer sparse
- average grass sward height 4 to 8 cm

Medium biomass

- Tussocks up to 20 cm high
- little bare ground between tussocks
- litter common but not continuous
- average grass sward height 8 - 12 cm

High biomass

- Tussocks greater than 20 cm high and closely spaced
- little or no bare ground
- litter layer continuous and thatched, may include subterranean clover
- average sward height greater than 12 cm

5.6 Positive filter features

Filter features **positively** associated with GSM habitat include larger patches of native grassland containing larval food species, preferably connected to other similar patches. These include:

- Areas cleared from Yellow Box-Red Gum grassy woodlands and similar vegetation types, with some or more of the following understorey characteristics:
-
    - Low biomass +/- patches of bare ground
        - Related to soil conditions or regular grazing
        - May include patches around rock outcrops, beside tracks, on compacted soil near dams or gates and on old tracks, may be surrounded by other native grasses or exotic pasture.
    - High cover of native grasses
    - Moderate to high cover of Wallaby Grasses, especially smaller species such as *Rytidosperma carphoides, R. auriculatum, R. laeve*
        - Smaller species can be overtopped or disappear with pasture improvement or under-grazing
    - Rough or Tall Speargrass (*Austrostipa scabra, A. bigeniculata*), Redleg Grass, Nine-awn Grass
    - Cryptogams
        - Indicates available bare ground, low disturbance, little or no pasture improvement
    - Small intertussock forbs such as *Lomandra bracteata*, *Chamaesyce drummondii, Triptilodiscus pygmaeus, Vittadinia muelleri, Solenogyne dominii, Cymbonotus lawsonianus, Crassula sieberiana, Chrysocephalum apiculatum, Enneapogon nigricans, Convolvulus angustissimus, Plantago varia, Wahlenbergia communis/luteola/gracilis*
        - Indicates intertussock spaces, low past disturbance, long-term maintenance of low to medium biomass, little or no pasture improvement.
- Areas cleared from grassy open forest communities containing Red Stringybark and/or Brittle Gum, Scribbly Gum, Long-leaved Box, Apple Box etc, with understorey characteristics as above.

5.7 Negative filter features

Filter features **negatively** associated with GSM habitat include grassy areas:

- Dominated by non-food grass species such as *Microlaena stipoides,* and *Themeda triandra*, may be associated with more moisture, higher biomass, southerly aspect, deeper soils, less stock grazing.
- Cleared from open forest habitats wetter than above or containing a significant shrub component, especially *Leptospermum, Kunzea, Bursaria*.
- Cleared from forest or woodland but with dense eucalypt regeneration.
- Cleared from forest and containing large unsuitable tussocks such as *Austrostipa densiflora* and *Rytidosperma pallidum.*
- Poorly-drained sites and/or supporting semi-wetland vegetation such as many rushes and sedges, *Carex appressa*, *Rytidosperma duttonianum, Haloragis heterophylla, Lythrum hyssopifolium, Mentha diemenica, Drosera, Pratia, Isotoma, Luzula, Stylidium, Poa labillardierei*, *Paspalum dilatatum*.
- Steep or south-facing slopes
- High biomass/improved pasture sites with GSM food plants scattered sparsely among exotic grasses rather than in discrete patches, especially with *Phalaris, Lolium, Dactylis, Trifolium subterraneum, Avena* spp. - these species lead to high biomass and dense thatch after vegetation collapse.
- Site with tall weeds or affected by previous weed control, soil disturbance/ploughing, sheet erosion.

6. Results

No GSM were observed in the Niche November 2021 surveys for flying adults at 29 locations in the Murrumbateman section of the project footprint considered to be potential GSM habitat. However, this should not be taken as evidence of absence, as 2021-22 was a very poor year for GSM observations in ACT/NSW, with the larval development period of the emerging adults possibly spanning the 2019 drought year and 2020/21 wet years. Shared data from 112 site visits by numerous other consultants and government staff across the known ACT/NSW distribution area showed that very low numbers of adults emerged in 2021, including in several well-surveyed reference populations. Three days of surveys in December 2021 around Yass and Murrumbateman for a different project found no GSM at several sites with substantial cover of food plants (R. Speirs Capital Ecology, shared data, 2021). Low numbers of records continued in the district in the 2022-23 flying season.

Classification of the collated field data resulted in the identification of numerous potential GSM habitat polygons in the Murrumbateman and Inland Slopes IBRA subregions (see Figure 13-4 of the BDAR). Within these, the total predicted impact to GSM habitat within the indicative disturbance area as a result of project construction and operation is 38.64 ha of potential habitat. Of this 38.64 ha of habitat, 2.75 ha occurs within Category 1 exempt lands.

No high-quality habitat was identified, as no Natural Temperate Grassland occurred in the project footprint.

A few patches of moderate quality habitat were identified, e.g. at Dalton in the Murrumbateman subregion. Such sites contained secondary grassland with areas of high cover of low biomass Wallaby Grasses and patches of bare ground.

Most of the GSM habitat fell into the low-quality category, or between low and moderate, due to degradation and fragmentation associated with grazing and pasture improvement. Almost all of the GSM habitat identified from BAM and habitat transect data, site photographs and validation visits was in small patches scattered across sites and separated by areas of unsuitable land use, landform or vegetation. Habitat identified as secondary grassland is vulnerable to loss through tree regeneration.

The scattered distribution of moderate to low quality GSM habitat patches is typical of other grazed sites in the Murrumbatemen subregion identified during surveys ahead of wind farms, solar farms and highway duplication (e.g. ERM, 2013, NGH Environmental, 2014, Niche,2018, NSW Government, 2019). It is likely that much of the landscape surrounding the project footprint is similar and would contain patches of potential GSM habitat in the same condition.

7. Potential Impacts

7.1 Potential direct impacts

Total impacts to GSM habitat have been identified as 38.64 ha, including 2.75 ha of Category 1 exempt lands. Almost all of this habitat is assumed to be within the Total Clearing Zone (TCZ) (refer to Section 13.1 of the BDAR). This is a worst-case scenario, as some areas damaged during construction and wire raising may recover naturally or through rehabilitation as above.

The remaining loss is in the Easement Clearing Zones (ECZ) and possibly Hazard Tree Zones (HTZ). In these areas clearing and ongoing suppression of tall-growing vegetation will be undertaken under transmission lines, but soil disturbance (and hence ground layer vegetation removal) is generally not required. The eventual result from suppression of tree and shrub regeneration in these zones and along maintenance tracks may result in an increase in the area of grassland and potential GSM habitat beyond the existing areas. GSM often naturally occur along track edges, where soil conditions often favour smaller native tussock species. This effect could be enhanced by replanting of track verges and disturbed areas adjacent to existing GSM habitat as well as within patches, using small species of locally occurring Wallaby Grasses and Speargrasses.

7.2 Potential indirect impacts

Indirect impacts to GSM habitat may include:

- Run-on of water and sediment to habitats as a result of changed hydrology causing changes in soil moisture, vegetation composition and biomass, and reducing habitat quality
- Introduction of weeds affecting habitat viability
- Trampling of grasses by machinery during construction.

These impacts can be mitigated by planning to minimise vehicle use inside habitat zones, use of sediment fencing, appropriate shaping of tracks and transmission line benches and post-construction rehabilitation/ revegetation.

7.3 Potential additional (prescribed) biodiversity impacts on areas of habitat connectivity

In modified pastoral landscapes, GSM habitat typically occurs as small patches of suitable native grasses among unsuitable vegetation such as exotic pasture, forest or areas of tree regeneration. GSM have poor powers of dispersal, with habitat patches more than 200 metres apart assumed to be effectively isolated. This is likely to be the existing case in much of the potential GSM habitat in the project footprint.

Clearing small patches of habitat may create breaks in connectivity within the project footprint and between the footprint and adjacent areas. This could be mitigated by revegetation/rehabilitation using small locally occurring species of Wallaby Grasses and Speargrasses within the footprint as described above, with the intention of creating connected corridors between patches.

The ongoing maintenance of ECZ and unsealed maintenance tracks also has the potential to create links between previously isolated GSM habitat patches. This could be enhanced by rehabilitation of track verges and disturbed areas with native grasses where they lie between areas of potential habitat, to create stepping-stone habitat for GSM to move within and outside the footprint.

8. Avoiding and minimising impacts

Impacts on GSM habitat during construction and operation will be avoided or minimised as outlined in the environmental mitigation measures component of the BDAR (Section 12). Mitigation measures include:

- Refined mapping of GSM habitat in impacted areas before construction. The mapping of GSM habitat has identified broad locations within the project footprint where scattered or continuous patches of suitable habitat occur or are likely to occur, and pre-construction mapping of impacted areas would show specific locations of habitat patches (refer to EMM B1).
- Where possible, surveys for flying male GSM under suitable conditions in spring to confirm their presence on sites with the highest potential, to focus avoidance and mitigation efforts (refer to EMM B2).
- Micrositing of transmission line infrastructure, associated work sites and other disturbances such as laydown areas to avoid native grassland/mapped GSM habitat where possible (refer to EMM B1).
- Using existing tracks where possible and planning routes and activities within the construction zone to avoid mapped habitat (refer to EMM B4).
- Rehabilitation of habitat that is disturbed by construction with appropriate native grasses, without use of fertiliser or clover. Plantings should include C3 grasses that are GSM larval food plants such as grassland Wallaby Grasses (*Rytidosperma* spp.) and Speargrasses (*Austrostipa bigeniculata*), *A. scabra*, and a low biomass dryland C4 grass (Redleg Grass (*Bothriochloa macra*)). A temporary nurse crop such as sterile Ryecorn could be used to stabilise the soil and suppress weeds during establishment (refer to EMM B18).
- Biosecurity measures implemented during construction to prevent the introduction and minimise the spread of existing weeds within the project footprint (B19).
- Follow-up weed control of replanted areas as part of track and site post-construction and operational maintenance programs (refer to EMM B20).

9. Conclusion

Through the synthesis of a desktop review of the relevant literature and existing data, and the collation of the findings of GSM field surveys undertaken in 2021 and 2022, it was found that GSM has the potential to occur within the project footprint.

Although no individuals were identified during field surveys and the only known nearby GSM record is a single site 3 km south of the project footprint in the Inland Slopes subregion near Tumut, suitable potential habitat was identified within the project footprint. The quality of this habitat, as determined by the parameters outlined in Sections 5.4-5.7, varied from low to moderate. Moderate quality GSM habitat was sparse and found only in secondary grassland with areas of high cover of low biomass Wallaby Grasses and patches of bare ground. Low quality GSM habitat accounted for most potential habitat identified and generally occurred in small, discrete patches subject to degradation and fragmentation as a result of grazing and pasture improvement.

GSM habitat polygon modelling found that project construction and operation is predicted to impact up to 38.64 ha of potential GSM habitat within the indicative disturbance area (2.75 ha of which is Category 1 exempt land). As such, avoidance and mitigation measures tailored specifically to the GSM, as outlined in Section 8, will be employed to reduce the likelihood and extent of impacts to potential GSM habitat. Where impacts cannot be avoided, biodiversity offset requirements will be met if required.

Table 1. References used in this project.

Reference
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Attachment 10. Plant community type descriptions

PCT 5 - River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion	
Vegetation formation	Forested Wetlands
Vegetation class	Inland Riverine Forests
Conservation status	PCT 5 is not associated with a TEC.
% remaining in NSW	60
Extent	PCT 5 is typically found on levees or other raised landform elements adjacent to rivers and wetlands on silty-sandy loam-clay soils. The PCT is mainly distributed along the Murray and Murrumbidgee Rivers with small areas on the Lachlan River and semi-arid climate regions of south-western NSW and Victoria.
Diagnostic canopy species for PCT 5	*Eucalyptus camaldulensis* subsp. *camaldulensis* (River Red Gum) is often the only canopy species in this PCT.
Diagnostic midstorey species for PCT 5	The shrub layer is sparse or absent with *Acacia dealbata* (Silver Wattle) sometimes present. Other species that are known to occur occasionally are, *Exocarpos strictus* (Dwarf Cherry), *Amyema miquelii* (Box Mistletoe), *Pultenaea foliolosa* (A Bush Pea), *Acacia baileyana* (Cootamundra Wattle), *Acacia verniciflua* (Varnish Wattle), *Cassinia aculeata* (Dolly Bush), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Dodonaea viscosa* subsp. *spatulata* (Broad-leaf Hopbush) and *Leptospermum brevipes* (Slender Tea-tree).
Diagnostic groundcover species for PCT 5	The ground cover may be mid-dense or dense and is typically dominated by grass species such as, *Bothriochloa macra* (Red Grass), *Lachnagrostis filiformis, Hemarthria uncinata* var. *uncinata*, *Cynodon dactylon* (Common Couch), *Rytidosperma racemosum* (Wallaby Grass), *Elymus scaber* (Common Wheatgrass), *Pseudoraphis spinescens* (Spiny Mudgrass), *Rytidosperma caespitosum* (Ringed Wallaby Grass), *Paspalidium jubiflorum* (Warrego Grass), and *Poa labillardierei* (Snow Grass). Sedge species are also common, such as Carex *tereticaulis, Juncus amabilis, Juncus flavidus, Carex appressa* (Tall Sedge), *Carex inversa* (Knob Sedge), *Eleocharis acuta, Eleocharis pusilla, Persicaria prostrata* (Creeping Knotweed) and *Juncus subsecundus* (Finger Rush). Other common species include, *Wahlenbergia fluminalis* (River Bluebell), *Centipeda cunninghamii* (Common Sneezeweed), *Lobelia concolor* (Poison Pratia), *Ranunculus undosus* (Swamp Buttercup), *Epilobium billardiereanum* subsp. *cinereum*, *Oxalis perennans*, *Verbena hispida* (Rough Verbena), *Alternanthera denticulata* (Lesser Joyweed), and *Eclipta platyglossa* (Yellow Twin-heads).
Condition and presence of weeds	PCT 5 occurs in the project footprint as two condition types: • Low • High

PCT 5 - River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion	
	A low cover of weed species is present throughout most of PCT 5, with *Trifolium repens* (White Clover) being the most commonly recorded weed.
Justification of evidence used to identify the PCT	As mentioned above, PCT 5 mainly occurs on levees adjacent to rivers and wetlands on silty-sandy loam-clay soils in the NSW South-western Slopes Bioregion. 82% of PCT 5 in the project footprint occurs in the Murrumbidgee - Tarcutta Channels and Floodplains Mitchell Landscape while another 15% occurs on the Upper Murrumbidgee Gorge landscape. Both of these landscapes align to the landscape description of the PCT. The remaining 3% of mapped PCT 5 is in the Doura Volcanics landscape. This small area most likely comprises the edges of the PCT. During surveys of the site, PCT 5 was observed along the edges of rivers and streams which also matches the landscape position of the PCT. Additionally, the diagnostic canopy species *Eucalyptus camaldulensis* subsp. *camaldulensis*, is the dominant species recorded in PCT. A shrub layer is generally absent in the plots sampled which is diagnostic of PCT 5. The sparsity could also be attributed to the fact that PCT 5 in the project footprint has been grazed and therefore lacks an established midstorey. Plots sampled confirm the presence of a grassy ground cover with characteristic species present including *Bothriochloa macra* (Red Grass) and *Cynodon dactylon* (Common Couch). A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 5 within the project footprint is shown in Figure 6-1. PCT 5 within the project footprint does not align with any TECs listed under the BC Act or EPCT Act.
Photos	 **Photo 1. Low condition woodland (photo taken at plot YG035B13)**

PCT 5 - River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion	
	 Photo 2. High condition woodland (photo taken at plot WM0248F6)
Number of plots sampled	Three plots were sampled within the Inland Slopes bioregion: Low condition: • YG035B13 High condition: • WM0248F6 • WM02478C

PCT 266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 266 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a Critically Endangered Ecological Community (CEEC) under the BC and EPBC Acts.
% remaining in NSW	6
Extent	PCT 266 occurs on slopes and crests in hill landform patterns in the South Western Slopes Bioregion. It generally occurs on lower parts of the landscape where soil fertility is relatively high. PCT 266 occurs on soils derived from a variety of lithologies including shale, limestone, fine grained metamorphic rocks, granite and basalt.
Diagnostic canopy species for PCT 266	*Eucalyptus albens* (White Box) is often the only canopy species in this PCT, however, other species that may be present include *Brachychiton populneus* (Kurrajong), *Eucalyptus blakelyi* (Blakely's Red Gum), *Eucalyptus bridgesiana* (Apple Box) and *Eucalyptus melliodora* (Yellow Box).
Diagnostic midstorey species for PCT 266	The shrub layer is usually sparse or absent depending on grazing history and soil type, however diagnostic species include; *Acacia decora* (Western Silver Wattle), *Acacia implexa* (Hickory Wattle), *Acacia deanei* subsp. *paucijuga* (Green Wattle), *Acacia genistifolia* (Early Wattle), *Acacia penninervis* var. *penninervis* (Mountain Hickory), *Acacia buxifolia* subsp. *buxifolia* (Box-leaved Wattle), *Acacia paradoxa* (Kangaroo Thorn), *Dodonaea viscosa* subsp. *cuneata* (Wedge-leaf Hop-bush), *Bursaria spinosa* subsp. *spinosa* (Native Blackthorn), *Cassinia aculeata* (Dolly Bush) and *Hibbertia riparia* (Erect Guinea-flower).
Diagnostic groundcover species for PCT 266	The ground cover is typically mid-dense to dense and can be diverse in grass and forb species. Diagnostic species include; *Themeda triandra* (Kangaroo Grass), *Poa sieberiana* (Snowgrass), *Wurmbea dioica* (Early Nancy), *Cymbonotus lawsonianus* (Bear's Ear), *Aristida behriana* (Bunch Wiregrass), *Panicum effusum* (Hairy Panic), *Rytidosperma auriculatum* (Lobed Wallaby Grass), *Rytidosperma caespitosum* (Ringed Wallaby Grass), *Microlaena stipoides* (Weeping Grass), *Austrostipa bigeniculata* (Yanganbil), *Bothriochloa macra* (Red Grass), *Elymus scaber* (Common Wheatgrass), *Aristida ramosa* (Purple Wiregrass), *Enteropogon acicularis* (Curly Windmill Grass), *Austrostipa aristiglumis* (Plains Grass), *Rytidosperma monticola* (Mountain Wallaby Grass) and *Gonocarpus elatus* (A Raspwort).
Condition and presence of weeds	PCT 266 occurs in the project footprint as three condition types: • Low • Moderate • High Exotic species are present throughout most of PCT 266 in the project footprint with a higher portion recorded in the Low and Moderate condition zones. Commonly recorded exotic species comprise pasture grasses and wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used	As mentioned above, PCT 266 mainly occurs in the NSW South-western Slopes Bioregion, with some areas also within the South Eastern Highlands Bioregion. It is located between 300 - 600 m altitude

PCT 266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
to identify the PCT	and on soils derived from a variety of lithologies including shale, limestone, fine grained metamorphic rocks, granite and basalt. All of PCT 266 in the project footprint is between 299 – 658 m asl, and occurs on a range of lithologies. Within PCT 266 in the project footprint, *Eucalyptus albens* is often the dominant canopy species, which is diagnostic of PCT 266. Other diagnostic canopy species including *Brachychiton populneus* (Kurrajong) and *Eucalyptus blakelyi* (Blakely's Red Gum) were recorded in moderate to low abundance across PCT 266 in the project footprint. *Eucalyptus macrorhyncha* was also recorded in one plot of PCT 266. Given it was in low abundance (one stem), this variation may be attributed to ecotonal differences. The wooded areas of this PCT have a sparse midstorey which can be diagnostic of PCT 266. The sparsity is most likely attributed to the fact that most areas of PCT 266 in the project footprint has been grazed and therefore lack an intact midstorey. Plots sampled confirm the presence of groundcover species diagnostic of PCT 266, including *Poa sieberiana* (Snowgrass), *Aristida behriana, Panicum effusum*, *Rytidosperma spp.*, *Microlaena stipoides*, *Austrostipa bigeniculata*, *Bothriochloa macra*, *Elymus scaber* and *Aristida ramosa*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 266 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 266 in Low, Moderate and High condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 266 in Moderate and High condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

PCT 266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
Photos	 **Photo 3. Low condition woodland (photo taken at plot MA089714)** **Photo 4. Moderate condition woodland (photo taken at plot YG040-3)**

PCT 266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
	 Photo 5. High condition woodland (photo taken at plot YG040-1)
Number of plots sampled	Fifteen plots were sampled, including thirteen in the Inland Slopes bioregion, and one in the Murrumbateman bioregion: Low condition: • MA089714 • YG037B35 Moderate condition: • YG007FE8 • MA0926A9 • 06 High condition: • MA2-067B • YG007C9C • YG-042A • YG037-1 • 6699ABB5 • YG040-1 • YG040-4 • YG040-3 • YG040-2 • WM0083F2

PCT 268 - White Box - Blakelys Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 268 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a CEEC under the BC and EPBC Acts.
% remaining in NSW	37
Extent	PCT 268 occurs on shallow clay or loamy clay soils derived from fine grained sedimentary, metamorphic or igneous substrates on hillcrests hillslopes in low hill and hill landform patterns in the upper slopes sub-region of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 268	Dominant canopy species include *Eucalyptus albens* (White Box), *Eucalyptus polyanthemos* (Red Box), *Eucalyptus blakelyi* (Blakely's Red Gum), *Eucalyptus macrorhyncha* (Red Stringybark), and *Eucalyptus goniocalyx* (Long-leaved Box). In some areas this PCT can contain *Eucalyptus sideroxylon* (Mugga Ironbark) and *Eucalyptus nortonii* (Large-flowered Box).
Diagnostic midstorey species for PCT 268	The midstorey of PCT 268 is typically sparse and includes *Acacia implexa* (Hickory Wattle), *Acacia genistifolia* (Early Wattle), *Dillwynia sericea* (Egg and Bacon Peas, Parrot Peas), *Lissanthe strigosa* (Peach Heath), *Acacia decora* (Western Silver Wattle), *Bursaria spinosa* subsp. *spinosa* (Native Blackthorn), *Daviesia latifolia* (Bitter-pea), *Melichrus urceolatus* (Urn Heath), *Acacia paradoxa* (Kangaroo Thorn), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Hibbertia riparia* (Erect Guinea-flower), *Persoonia rigida, Pultenaea lapidosa* (Stoney Bush-pea), *Leucopogon virgatus* (Common Beard-heath) and *Xanthorrhoea glauca*.
Diagnostic groundcover species for PCT 268	PCT 268 generally has a mid-dense ground cover with typical species including *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Hydrocotyle laxiflora* (Stinking Pennywort), *Acaena ovina* (Acaena), *Lobelia purpurascens* (Whiteroot), *Hypericum gramineum* (Small St John's Wort), *Ajuga australis* (Austral Bugle), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell) and *Dichopogon strictus* (Chocolate Lily). Commonly occurring grasses included *Poa sieberiana* (Snowgrass), *Elymus scaber* (Common Wheatgrass), *Aristida ramosa* (Purple Wiregrass), *Austrostipa densiflora* (Foxtail Speargrass), *Rytidosperma caespitosum* (Ringed Wallaby Grass) and *Echinopogon ovatus* (Forest Hedgehog Grass).
Condition and presence of weeds	PCT 268 occurs in the project footprint as three condition types: • Low • Moderate • High Exotic species are present in ranging densities throughout PCT 268, typically with higher covers recorded in the Low condition zones. A large portion of exotic species comprise forb species such as *Rumex acetosella* (Sheep's Sorrel), *Trifolium* spp. (Clover) and *Hypericum perforatum* (St. Johns Wart). Exotic grasses present include *Paspalum dilatatum* (Paspalum) and *Eragrostis minor*. Exotic

PCT 268 - White Box - Blakelys Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	
	species present in the High condition zones were mostly wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used to identify the PCT	As mentioned above, PCT 268 mainly occurs on shallow clay or loamy clay soils derived from fine grained sedimentary, metamorphic or igneous substrates, which aligns with the two predominant Mitchell Landscapes (Adrah Hills and Ranges and Carabost Hills and Ranges) that PCT 268 occurs on within the project footprint. Additionally, diagnostic canopy species of PCT 268 include *Eucalyptus albens*, *Eucalyptus polyanthemos*, *Eucalyptus blakelyi* and *Eucalyptus macrorhyncha,* all of which were observed in high abundance throughout this PCT. The midstorey was typically sparse in this PCT within the project footprint, which is diagnostic of PCT 268. Midstorey species that were recorded in this PCT and are diagnostic of PCT 268 include *Acacia implexa*, *Acacia paradoxa*, *Dillwynia sericea*, *Melichrus urceolatus* and *Hibbertia obtusifolia*. Plots sampled confirmed the presence of groundcover species diagnostic of PCT 268, including *Lomandra filiformis* subsp. *coriacea, Hydrocotyle laxiflora*, *Poa sieberiana*, *Elymus scaber*, *Aristida ramosa*, *Schoenus apogon*, *Cheilanthes sieberi* subsp. *sieberi* and *Euchiton japonicus*. A full species list for all surveyed plots is in Appendix 5 and the extent of PCT 268 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 268 in Low, Moderate and High condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 268 in Moderate and High condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

PCT 268 - White Box - Blakelys Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion

Photos

Photo 6. Low condition woodland (photo taken at plot WM051799)

Photo 7. Moderate condition woodland (photo taken at plot 02)

PCT 268 - White Box - Blakelys Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion

Photo 8. High condition woodland (photo taken at plot WM05731A)

Number of plots sampled

Twenty-nine plots were sampled within the Inland Slopes bioregion:

Low condition:

- WM053A1A
- WM05303E
- WM051799
- MA0922CD
- MA092758
- MA092425
- WM055735
- WM0557B3
- WM0571DE
- WM057B08
- 05
- 15
- 16

Moderate condition:

- 02
- 17

High condition:

- WM053FFF
- WM057074
- WM04792A
- WM047180
- WM047D5B
- WM057845
- WM0572CF2
- WM05731A
- WM053CE7
- WM0571B0
- WM0552AC
- WM055ADB
- WM057A2F
- WM057B25

PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 277 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a CEEC under the BC and EPBC Acts.
% remaining in NSW	6
Extent	PCT 277 is a widespread community found on hillslopes and plains mainly in the upper slopes sub-region of the NSW South-western Slopes Bioregion and east of Wagga Wagga. It typically occurs on deep, fertile, loam or clay soils derived from a range of substrates including fine-grained sedimentary and metamorphic rocks but also volcanics and fine-grained granite.
Diagnostic canopy species for PCT 277	*Eucalyptus blakelyi* (Blakely's Red Gum) and *Eucalyptus melliodora* (Yellow Box) are the two dominant canopy species of PCT 277 while *Eucalyptus bridgesiana* (Apple Box), *Eucalyptus goniocalyx* (Bundy) and *Eucalyptus microcarpa* (Western Grey Box) may also occasionally occur. Other associated canopy species include *Eucalyptus polyanthemos* subsp. *polyanthemos* (Red Box), *Eucalyptus albens* (White Box), *Eucalyptus conica* (Fuzzy Box) and *Callitris glaucophylla* (White Cypress Pine).
Diagnostic midstorey species for PCT 277	The shrub layer is typically sparse or absent however where present includes *Acacia dealbata* (Silver Wattle) and *Hibbertia obtusifolia* (Hoary Guinea Flower).
Diagnostic groundcover species for PCT 277	Depending on rainfall, the groundcover varies from sparse to dense and is typically dominated by grass species. These include *Themeda triandra* (Kangaroo Grass), *Poa sieberiana* (Snowgrass), *Bothriochloa macra* (Red Grass), *Aristida ramosa* (Purple Wiregrass), *Panicum effusum* (Hairy Panic), *Austrostipa spp., Rytidosperma auriculatum* (Lobed Wallaby Grass), *Rytidosperma setaceum* (Small-flowered Wallaby-grass), *Cymbopogon refractus* (Barbed Wire Grass) and *Elymus scaber* (Common Wheatgrass). Other diagnostic groundcover species of PCT 277 include *Juncus usitatus*, *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Geranium solanderi* var. *solanderi*, *Chrysocephalum apiculatum* (Common Everlasting), *Carex inversa* (Knob Sedge), *Cheilanthes sieberi* subsp. *sieberi* (Rock Fern), *Vittadinia cuneata* (A Fuzzweed), *Bulbine bulbosa* (Bulbine Lily) and *Dianella revoluta* var. *revoluta* (A Blue Flax Lily).
Condition and presence of weeds	PCT 277 occurs in the project footprint as four condition types: • Very low • Low • Moderate • High PCT 277 in the project footprint is typically adjacent to or within farmlands. Due to this, a high cover of pasture grasses (*Bromus catharticus*, *Phalaris aquatica*, *Holcus lanatus, Poa pratensis* and *Lolium*

PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	
	species) and common farm weeds (*Rumex acetosella, Hypochaeris radicata* and *Onopordum acanthium*) were recorded in the Very low and Low condition zones of PCT 277.
Justification of evidence used to identify the PCT	As mentioned above, PCT 277 is widespread and can be found in a range of landscape contexts. The dominant canopy species of PCT 277, *Eucalyptus blakelyi* and *Eucalyptus melliodora*, were both observed as the co-dominant species throughout this PCT within the project footprint. Other characteristic canopy species recorded include *Eucalyptus goniocalyx* and *Eucalyptus polyanthemos* subsp. *polyanthemos*. In the wooded areas the midstorey comprised a sparse cover of Acacia species and *Hibbertia obtusifolia*, which is diagnostic of PCT 277. Plots sampled confirm the presence of groundcover species diagnostic of PCT 277, including *Themeda triandra*, *Bothriochloa macra*, *Aristida ramosa*, *Panicum effusum*, *Austrostipa scabra* subsp. *scabra*, *Austrostipa bigeniculata, Elymus scaber*, *Juncus usitatus*, *Lomandra filiformis* subsp. *coriacea, Geranium solanderi* var. *solanderi*, *Carex inversa* and *Cheilanthes sieberi* subsp. *sieberi.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 277 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 277 in Very low, Low, Moderate and High condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 277 in Moderate and High condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Photos

Photo 9. Very low condition woodland (photo taken at plot WM05392C)

Photo 10. Low condition woodland (photo taken at plot WM037-01)

PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	
	 Photo 11. Moderate condition woodland (photo taken at plot YG030560) **Photo 12. High condition woodland (photo taken at plot BY145C9B)**
Number of plots sampled	Twenty-six plots were sampled within the Inland Slopes bioregion: Very low condition: • YG0056F6

PCT 277 – Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	
	• YG-042F • YG001693 • YG001AA0 • WM05392C Low condition: • YG030230 • YG030ED6 • YG030881 • YG030B22 • YG005A75 • YG-042B • WM037-01 • WM029882 • WM0320E5 Moderate condition: • WM046550 • YG030560 • YG0309D5 • YG030MP2 • MA09282A High condition: • WM045F7E • WM045964 • BY145C9B • WM032F4C • WM0328F6 • WM0422CA • WM0427BE

PCT 278 – Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 278 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a CEEC under the BC and EPBC Acts.
% remaining in NSW	20
Extent	PCT 278 is found in gullies and on creek flats in hill landscapes or along creeks mainly in the Upper Slopes sub-region of the NSW South-western Slopes Bioregion. It typically occurs on deep alluvial silty clay-loam soils. The PCT is often found grading into the widespread PCT 277.
Diagnostic canopy species for PCT 278	PCT 278 is typically dominated by *Eucalyptus blakelyi* (Blakely's Red Gum) often with *Eucalyptus melliodora* (Yellow Box), *Eucalyptus bridgesiana* (Apple Box) and *Eucalyptus goniocalyx* (Long-leaved Box). *Eucalyptus microcarpa* (Western Grey Box) may also occasionally occur in this PCT.
Diagnostic midstorey species for PCT 278	The shrub layer is sparse but often has a high number of wattles present including *Acacia dealbata* (Silver Wattle), *Acacia paradoxa* (Kangaroo Thorn) and *Acacia deanei* subsp. *paucijuga* (Green Wattle). Other midstorey species characteristic of PCT 278 include *Styphelia triflora* (Pink Five-Corners), *Acrotriche rigida*, *Acacia acinacea* (Gold-dust Wattle) and *Dodonaea viscosa* subsp. *cuneata* (Wedge-leaf Hop-bush).
Diagnostic groundcover species for PCT 278	The groundcover of PCT 278 is often dense, and includes species such as *Carex appressa* (Tall Sedge), *Hydrocotyle laxiflora* (Stinking Pennywort), *Rumex brownii* (Swamp Dock), *Poa labillardierei* var. *labillardierei* (Tussock), *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Carex inversa* (Knob Sedge), J*uncus subglaucus* (Rush), *Poranthera microphylla* (Small Poranthera), *Centipeda cunninghamii* (Common Sneezeweed), *Echinopogon ovatus* (Forest Hedgehog Grass), *Cynoglossum australe*, *Scutellaria humilis* (Dwarf Skullcap), *Elymus scaber* (Common Wheatgrass), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily) and *Geranium retrorsum* (Cranesbill Geranium).
Condition and presence of weeds	PCT 278 occurs in the project footprint as three condition types: • Very low • Moderate • High Exotic species are present throughout PCT 278, typically with higher covers recorded in the Very low and Moderate condition zones. A large portion of the exotic species comprise grasses such as *Ehrharta erecta* (Panic Veldtgrass), *Eragrostis curvula* (African Lovegrass), *Lolium perenne* (Perennial Ryegrass), *Dactylis glomerata* (Cocksfoot) and *Holcus lanatus* (Yorkshire Fog).
Justification of evidence used to identify the PCT	As mentioned above, PCT 278 occurs in gullies and creek flats and is associated with deep alluvial silty clay-loam soils. These characteristics partially align with the areas mapped as PCT 278 within the project footprint. The majority of PCT 278 is mapped on the Boorowa Volcanics Mitchell Landscape (characterised by loam soils) and Murrumbidgee - Tarcutta Channels and Floodplains Mitchell Landscape (characterised by alluvial soils). Dominant canopy species of PCT 278 include *Eucalyptus blakelyi* and *Eucalyptus melliodora* and *Eucalyptus goniocalyx*, all of which were observed throughout this PCT.

PCT 278 – Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	
	A midstorey was generally absent in the plots sampled. This is most likely attributed to grazing which was evident across the PCT. Plots sampled confirm the presence of groundcover species diagnostic of PCT 278, including *Carex appressa*, *Hydrocotyle laxiflora*, *Rumex brownii*, *Microlaena stipoides* var. *stipoides*, *Carex inversa*, *Poranthera microphylla, Elymus scaber*, *Dianella revoluta* var. *revoluta*, *Acaena ovina*, *Persicaria* sp., *Ranunculus sessiliflorus* var. *sessiliflorus* and *Oxalis perennans.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 278 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 278 in Very low, Moderate and High condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 278 in Moderate and High condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
Photos	 **Photo 13. Very low condition woodland (photo taken at plot YG026MP1)**

PCT 278 – Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Photo 14. Moderate condition woodland (photo taken at plotYG-042C)

Photo 15. High condition woodland (photo taken at plot BY14562F)

Number of plots sampled	Twelve plots were sampled within the Inland Slopes and Murrumbateman bioregions: Very low condition: • YG0011A7

PCT 278 – Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	
	• YG001B70 • YG001E6E • YG001D0C • YG001DF2 • YG026MP1 Moderate condition: • YG-042C • MA0929E3 High condition: • BY14520E • BY14562F • BY1459EC • BY1459EC

PCT 280 – Red Stringybark - Blakelys Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 280 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a CEEC under the BC and EPBC Acts.
% remaining in NSW	20
Extent	PCT 280 occurs on red- brown loamy clay soils derived from granite, granodiorite, sedimentary or metamorphic rocks and is situated on steep hillslopes and hillcrests in hilly country from Cootamundra and eastwards in the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 280	PCT 280 is typically dominated by *Eucalyptus macrorhyncha* (Red Stringybark) and *Eucalyptus blakelyi* (Blakely's Red Gum), sometimes with *Eucalyptus goniocalyx* (Bundy) or *Eucalyptus melliodora* (Yellow Box) also present. Other occasional species include *Eucalyptus polyanthemos* subsp. *polyanthemos* (Red Box), *Eucalyptus dealbata* (Tumbledown Red Gum), *Callitris endlicheri* (Black Cypress Pine) and *Brachychiton populneus* subsp. *populneus* (Kurrajong).
Diagnostic midstorey species for PCT 280	The shrub layer of PCT 280 is sparse to mid-dense with diagnostic species including *Lissanthe strigosa* subsp. *strigosa* (Peach Heath), *Bursaria spinosa* (Native Blackthorn), *Acacia buxifolia* subsp. *buxifolia* (Box-leaved Wattle), *Pultenaea foliolosa* (A Bush Pea), *Acacia baileyana* (Cootamundra Wattle), *Acacia verniciflua* (Varnish Wattle), *Cassinia aculeata* (Dolly Bush), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Dodonaea viscosa* subsp. *spatulata* (Broad-leaf Hopbush) and *Leptospermum brevipes* (Slender Tea-tree).
Diagnostic groundcover species for PCT 280	PCT 280 often has a mid-dense groundcover dominated by grass and grass-like species. These include *Rytidosperma setaceum* (Small-flowered Wallaby-grass), *Austrostipa densiflora* (Foxtail Speargrass), *Themeda triandra* (Kangaroo Grass), *Aristida ramosa* (Purple Wiregrass), *Elymus scaber* (Common Wheatgrass) and *Lomandra bracteata* (Mat-rush). Characteristic forbs include *Chrysocephalum semipapposum* (Clustered Everlasting), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Xerochrysum viscosum* (Sticky Everlasting), *Hydrocotyle laxiflora* (Stinking Pennywort), *Stackhousia monogyna* (Creamy Candles), *Gonocarpus tetragynus* (Poverty Raspwort), *Hardenbergia violacea* (False Sarsaparilla), *Crassula sieberiana* (Australian Stonecrop), *Triptilodiscus pygmaeus* (Common Sunray), *Stuartina muelleri* (Spoon Cudweed) and *Stypandra glauca* (Nodding Blue Lily).
Condition and presence of weeds	PCT 280 occurs in the project footprint as four condition types: • Very low • Low • Moderate • High Exotic species are present throughout PCT 280, typically with higher covers recorded in the Very low, Low and Moderate condition zones. A large portion of exotic species comprise grass species such as *Nassella trichotoma* (Serrated Tussock), *Briza maxima* (Quaking Grass), *Holcus lanatus* (Yorkshire Fog), *Lolium perenne* (Perennial Ryegrass) and *Vulpia bromoides* (Squirrel Tail Fesque). The exotic

PCT 280 – Red Stringybark - Blakelys Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	
	forb species *Rumex acetosella* (Sheep Sorrel) and *Trifolium repens* (White Clover) were also recorded in high cover across the sampled plots.
Justification of evidence used to identify the PCT	As mentioned above, PCT 280 occurs on soils derived from granite, granodiorite, sedimentary or metamorphic rocks on steep hillslopes and hillcrests in hilly country. The majority of PCT 280 in the project footprint occurs on the Minjary Hills and Ranges, Carabost Hills and Ranges and Adelong Granite Ranges Mitchell Landscapes, all of which are characterised by steep hills and ranges. A portion of PCT 280 also occurs on Boorowa Volcanics which is characterised by undulating low hills. Dominant canopy species of PCT 280 include *Eucalyptus macrorhyncha* and *Eucalyptus blakelyi*, both of which were observed with a high cover throughout PCT 280 in the project footprint. Other diagnostic canopy species recorded include *Eucalyptus goniocalyx*, *Eucalyptus melliodora* and *Eucalyptus polyanthemos* subsp. *polyanthemos*. In the wooded areas, the midstorey ranged from sparse to dense with several diagnostic species present, including *Lissanthe strigosa* subsp. *strigosa*, *Bursaria spinosa* and *Hibbertia obtusifolia*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 278, including *Themeda triandra, Elymus scaber, Chrysocephalum semipapposum, Hydrocotyle laxiflora, Crassula sieberiana*, *Triptilodiscus pygmaeus* and *Cheilanthes sieberi* subsp. *sieberi*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 280 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 280 in Very low, Low, Moderate and High condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 280 in Moderate and High condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

PCT 280 – Red Stringybark - Blakelys Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Photos

Photo 16. Very low condition woodland (photo taken at plot MA05903-01)

Photo 17. Low condition woodland (photo taken at plot YG02401)

PCT 280 – Red Stringybark - Blakelys Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Photo 18. Moderate condition woodland (photo taken at plot YG02634E)

Photo 19. High condition woodland (photo taken at plot BY1155B8)

Number of plots sampled	Twenty-five plots were sampled within the Crookwell, Inland Slopes and Murrumbateman bioregions. Very low condition:

PCT 280 – Red Stringybark - Blakelys Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	
	• MA05903-01 Low condition: • YG026A72 • YG02401 Moderate condition: • BY044D31 • MA098668 • YG02634E • BY1200488D • BY12003FEA • BY115C0D • MA079A30 • MA079E17 • WM046356 • BY0447A5 High condition: • MA-086A • MA-087A • YG02001 • MA05903706 • YG020D4B • YG020259 • MA05903241 • MA05905-01 • BY1155B8 • BY115ABC • WM046FC8 • WM0469C6

	PCT 283 – Apple Box - Blakelys Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 283 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a CEEC under the BC and EPBC Acts
% remaining in NSW	9
Extent	PCT 283 typically occurs on clay loams or silty clay loam soils derived from colluvium or sedimentary, metamorphic, igneous or volcanic substrates on flats and gentle hillslopes in hill landscape patterns of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 283	PCT 283 is typically dominated by *Eucalyptus bridgesiana* (Apple Box) often with *Eucalyptus blakelyi* (Blakely's Red Gum) and/or *Eucalyptus melliodora* (Yellow Box). *Eucalyptus macrorhyncha* (Red Stringybark) may also occur in this PCT.
Diagnostic midstorey species for PCT 283	The shrub layer is very sparse to absent, but where present, species may include *Acacia dealbata* (Silver Wattle), *Acacia implexa* (Hickory Wattle), *Acacia paradoxa* (Kangaroo Thorn), *Cassinia aculeata* (Dolly Bush), *Leptospermum continentale* (Prickly Teatree), *Callistemon sieberi* (River Bottlebrush), *Pultenaea procumbens* and *Pultenaea subspicata* (Low Bush-pea).
Diagnostic groundcover species for PCT 283	The ground cover is mid-dense to dense and dominated by grass and grass like species such as *Bothriochloa macra* (Red Grass), *Carex appressa* (Tall Sedge), *Cyperus lucidus* (Leafy Flat Sedge), *Echinopogon ovatus* (Forest Hedgehog Grass), *Elymus scaber* var. *scaber*, *Eragrostis parviflora* (Weeping Lovegrass), *Juncus subsecundus* (Finger Rush), *Juncus vaginatus, Luzula densiflora* (Woodrush), *Luzula meridionalis, Microlaena stipoides* var. *stipoides* (Weeping Grass), *Panicum effusum* (Hairy Panic), *Poa sieberiana* (Snowgrass), *Schoenus apogon* (Fluke Bogrush) and *Themeda triandra* (Kangaroo Grass). Characteristic forb species include *Acaena ovina* (Acaena), *Arthropodium minus* (Small Vanilla Lily), *Bulbine bulbosa* (Bulbine Lily), *Craspedia variabilis* (Common Billy-buttons), *Cymbonotus lawsonianus* (Bear's Ear), *Drosera auriculata, Drosera peltata* (A Sundew), *Epilobium billardiereanum* subsp. *hydrophilum, Gonocarpus tetragynus* (Poverty Raspwort), *Haloragis heterophylla* (Variable Raspwort), *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Hypoxis hygrometrica* var. *hygrometrica*, *Lythrum hyssopifolia* (Hyssop Loosestrife), *Microseris lanceolata* (Yam Daisy), *Plantago gaudichaudii* (Narrow Plantain), *Plantago hispida*, *Plantago varia*, *Poranthera microphylla* (Small Poranthera), *Ranunculus inundatus* (River Buttercup), *Rumex brownii* (Swamp Dock), *Scleranthus pungens* (Prickly Knawel), *Senecio hispidulus* (Hill Fireweed), *Senecio prenanthoides, Senecio quadridentatus* (Cotton Fireweed), *Senecio tenuiflorus* (A fireweed), *Solenogyne dominii , Tricoryne elatior* (Yellow Autumn-lily), *Urtica incisa* (Stinging Nettle), *Viola betonicifolia* (Native Violet), *Viola hederacea* (Ivy-leaved Violet), *Vittadinia cuneata* (A Fuzzweed), *Wahlenbergia communis* (Tufted Bluebell), *Wahlenbergia gracilis* (Sprawling Bluebell), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell) and *Wurmbea dioica* subsp. *dioica* (Early Nancy). Commonly occurring ferns include *Cheilanthes austrotenuifolia* (Rock Fern) and *Pteridium esculentum* (Bracken) while the climber *Glycine clandestina* (Twining glycine) is also often present.
Condition and presence of weeds	PCT 283 occurs in the project footprint as five condition types: • Very low

	• Low • Moderate • High • Very high Exotic species are present in relatively high covers throughout PCT 283. A large portion of recorded exotic species comprise grasses such as *Nassella trichotoma* (Serrated Tussock), *Cynosurus echinatus* (Rough Dog's Tail), *Dactylis glomerata* (Cocksfoot) and *Phalaris aquatica* (Phalaris).
Justification of evidence used to identify the PCT	PCT 283 occurs on the Minjary Hills and Ranges, Oberon - Kialla Granites and Dalton Hills Mitchell Landscapes which are characterised by steep or undulating hills and sandy or clay loam soils which is consistent with the landscape description of PCT 283. Canopy species recorded in the PCT include a co-dominance of *Eucalyptus bridgesiana* and *Eucalyptus blakelyi* with *Eucalyptus melliodora* and *Eucalyptus macrorhyncha* present in lower numbers. The diagnostic species *Acacia dealbata* was recorded in the midstorey of several plots of PCT 283. *Cassinia sifton* (Sifton's Bush) was also recorded in several plots. Whilst this species is not a diagnostic species, its presence can most likely be attributed to a history of disturbance as *Cassinia sifton* is a known pioneer species, particularly in less fertile areas. Plots sampled confirm the presence of groundcover species diagnostic of PCT 283, including *Bothriochloa macra* (Red Grass), *Carex appressa* (Tall Sedge), *Echinopogon ovatus* (Forest Hedgehog Grass), *Elymus scaber* var. *scaber, Luzula* sp.*, Microlaena stipoides, Panicum effusum* (Hairy Panic), *Schoenus apogon* (Fluke Bogrush), *Themeda triandra* (Kangaroo Grass), *Acaena ovina* (Acaena), *Cymbonotus* sp.*, Epilobium* sp.*, Gonocarpus tetragynus* (Poverty Raspwort), *Haloragis heterophylla* (Variable Raspwort), *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Lythrum hyssopifolia* (Hyssop Loosestrife), *Senecio prenanthoides, Senecio quadridentatus* (Cotton Fireweed), *Solenogyne dominii, Tricoryne elatior* (Yellow Autumn-lily), and *Wahlenbergia stricta.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 283 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 283 in Very low, Low, Moderate, High and Very high condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 280 in Moderate, High and Very high condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Photos

Photo 20. Low condition woodland (photo taken at plot BY111463)

Photo 21. Moderate condition woodland (photo taken at plot BY10345E)

Photo 22. High condition woodland (photo taken at plot 146MP007)

Photo 23. Very high condition woodland (photo taken at plot BY111AB5)

Number of plots sampled	Thirteen plots were sampled within the Bungonia, Crookwell and Murrumbateman bioregions: Very low condition: • Nil Low condition:

	• BY111463 • 511MP003 • 511MP005 • 146MP006 Moderate condition: • BY10369E • BY10345E • BY001BD2 • BY001F8E High condition: • BY103E46 • 146MP007 • 146MP008 Very high condition: • BY111AB5 • BY111E49

	PCT 285 – Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Upper Riverina Dry Sclerophyll Forests
Conservation status	PCT 285 is not associated with a TEC.
% remaining in NSW	25
Extent	PCT 285 typically occurs in remnants along drainage lines and on the edges of swamps in the Tumut to Tumbarumba region. Many areas have been cleared for agriculture or pine plantations, and only some small stands occur in reserves. PCT 285 occurs on alluvial or colluvial organic grey to brown podzolic clay loam soils, on poorly drained valley flats, surrounding swamps or lining creeks in hill or mountain landscapes generally above 600 m altitude in the southern section of the NSW South Western Slopes and adjoining South Eastern Highlands Bioregions. The underlying lithology is mainly granite or granodorite.
Diagnostic canopy species for PCT 285	PCT 285 is typically dominated by *Eucalyptus camphora subsp. humeana*, *Eucalyptus stellulata* (Black Sally), *Eucalyptus robertsonii subsp. robertsoni*i and *Eucalyptus bridgesiana* (Apple Box).
Diagnostic midstorey species for PCT 285	The shrub layer is usually sparse and includes the tall shrubs *Acacia dealbata* (Silver Wattle), *Acacia melanoxylon* (Black Wood), *Acacia kettlewelliae*, *Leptospermum continentale* (Prickly Teetree) and the low shrubs *Mirbelia oxylobioides* (Mountain Mirbelia), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Hovea linearis*, *Cassinia aculeata* (Dolly Bush), *Epacris breviflora* and rarely *Bossiaea foliosa* (Leafy Bossiaea). The tall tree fern *Dicksonia antarctica* (Soft Treefern) occurs in some narrow creeks.
Diagnostic groundcover species for PCT 285	The ground cover is usually dense being dominated by grass and grass like species such as *Poa labillardierei var. labillardierei*, *Microlaena stipoides var. stipoides* (Weeping Grass), *Bothriochloa macra* (red Grass), *Echinopogon ovatus* (Forest Hedgehog Grass), *Carex appressa* (Tall Sedge), *Juncus holoschoenus*, *Themeda australis*, *Phragmites australia*, *Eleocharis sphacelate* (Tall Spike Rush), *Carex fascicularis* (Tassel Sedge), *Juncus sarophorus*, *Elymus scaber var. scaber* (Wheatgrass), *Lomandra confertifolia subsp. rubiginosa*, *Lomandra longifolia* and *Lepidosperma laterale*. Characteristic forbs include *Senecio bathurstianus*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Ranunculus lappaceus* (Common buttercup), *Geranium neglectum*, *Acaena novae-zelandie* (Bidgee-widgee), *Rubus parvifolius* (Native Raspberry), *Mentha diemenica* (Slender Mint) and *Asperula conferta*. The ferns and climbers *Clematis aristata*, *Calochlaena dubia* (Rainbow Fern), *Blechnum nudum* (Fishbone Water Fern), *Adiantum aethiopicum*, and *Pteridium esculentum* (Bracken Fern) may also occur.
Condition and presence of weeds	PCT 285 occurs in the project footprint in Low condition. Exotic species are present throughout PCT 285, with a large portion of weeds comprising of wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used to identify the PCT	A large amount of PCT 285 within the project footprint is severely burnt and could therefore not be sampled using BAM plots. However, field observations identified that PCT 285 was the likely the best fit PCT for the vegetation based off the presence of diagnostic canopy species. The landscape position is also consistent with PCT 285, as it is situated along drainage lines and poorly drained valley flats. Within the project footprint PCT 285 is situated within the Tooma Granite Ranges Mitchell Landscape which conforms with the landscape description for PCT 285 which states the PCT has an underlying lithology of granite or granodorite.
Photos	N/A

Number of plots sampled	No plots were able to be sampled.

PCT 287 – Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Western Slopes Dry Sclerophyll Forests
Conservation status	PCT 287 has no associated TEC.
% remaining in NSW	33
Extent	PCT 287 typically occurs clay soils derived from a range of substrates including granite, metamorphic rocks, fine-grained sedimentary and volcanic rocks on hillslopes in hill landform patterns mainly in the NSW South-western Slopes Bioregion and extending onto the South Eastern Highlands Bioregion.
Diagnostic canopy species for PCT 287	PCT 287 is typically dominated by *Eucalyptus goniocalyx* (Bundy), *Eucalyptus macrorhyncha* (Red Stringybark) and *Eucalyptus polyanthemos* subsp. *polyanthemos* (Red Box). Other canopy species may include *Eucalyptus melliodora* (Yellow Box), *Callitris endlicheri* (Black Cypress Pine) *Eucalyptus albens* (White Box) and *Eucalyptus sideroxylon* (Mugga Ironbark).
Diagnostic midstorey species for PCT 287	The shrub layer is sparse and includes species such as *Brachyloma daphnoides* subsp. *daphnoides* (Daphne Heath), *Acacia paradoxa* (Kangaroo Thorn), *Cassinia aculeata* (Dolly Bush), *Acacia buxifolia* subsp. *buxifolia* (Box-leaved Wattle), *Lissanthe strigosa* subsp. *strigosa* (Peach Heath), *Persoonia sericea, Leptospermum continentale* (Prickly Teatree), *Dillwynia sericea* (Egg and Bacon Peas), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Indigofera australis* (Australian Indigo), *Melichrus urceolatus* (Urn Heath), *Acacia dealbata* (Silver Wattle), *Acacia implexa* (Hickory Wattle), *Daviesia latifolia* (Bitter-pea), *Pultenaea foliolosa* (A Bush Pea), *Pultenaea pedunculata* (Matted Bush-pea), *Pultenaea cunninghamii*, *Cassinia laevis* (Cough Bush) and *Bursaria spinosa* subsp. *spinosa* (Native Blackthorn).
Diagnostic groundcover species for PCT 287	The ground cover is mid-dense and includes grass and grass like species such as *Aristida ramosa* (Purple Wiregrass), *Bothriochloa macra* (Red Grass), *Dichelachne micrantha* (Shorthair Plumegrass), *Echinopogon ovatus* (Forest Hedgehog Grass), *Eragrostis parviflora* (Weeping Lovegrass), *Juncus subsecundus* (Finger Rush), *Juncus vaginatus, Lepidosperma laterale* (Variable Sword-sedge), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Luzula densiflora* (Woodrush), *Panicum effusum* (Hairy Panic), *Poa sieberiana* var. *sieberiana* (Snowgrass), *Rytidosperma pallidum* (Redanther Wallaby Grass), *Rytidosperma pilosum* (Smooth-flowered Wallaby Grass), *Rytidosperma racemosum* var. *racemosum* (Wallaby Grass), *Schoenus apogon* (Fluke Bogrush) and *Themeda triandra* (Kangaroo Grass). Forb species characteristic of PCT 287 include *Acaena novae-zelandiae* (Bidgee-widgee), *Ajuga australis* (Austral Bugle), *Bulbine bulbosa* (Bulbine Lily), *Chrysocephalum apiculatum* (Common Everlasting), *Chrysocephalum semipapposum* (Clustered Everlasting), *Cymbonotus preissianus* (Austral Bear's Ear), *Dichopogon strictus* (Chocolate Lily), *Drosera peltata* (A Sundew), *Epilobium billardiereanum* subsp. *cinereum*, *Galium gaudichaudii* (Rough Bedstraw), *Gonocarpus tetragynus* (Poverty Raspwort), *Goodenia hederacea* subsp. *hederacea*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Lythrum hyssopifolia* (Hyssop Loosestrife), *Microseris lanceolata* (Yam Daisy), *Plantago gaudichaudii* (Narrow Plantain), *Plantago varia, Scutellaria humilis* (Dwarf Skullcap), *Senecio lautus* subsp. *dissectifolius*, *Senecio*

PCT 287 – Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	
	prenanthoides, Senecio quadridentatus (Cotton Fireweed), *Senecio tenuiflorus* (A fireweed), *Solenogyne dominii, Stypandra glauca* (Nodding Blue Lily), *Tricoryne elatior* (Yellow Autumn-lily), *Viola betonicifolia* (Native Violet), *Vittadinia cuneata* (A Fuzzweed), *Wahlenbergia communis* (Tufted Bluebell), *Wahlenbergia gracilis* (Sprawling Bluebell), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell) and *Wurmbea dioica* subsp. *dioica* (Early Nancy). The rock ferns *Cheilanthes austrotenuifolia* (Rock Fern) and *Cheilanthes sieberi* (Rock Fern) may also be present.
Condition and presence of weeds	PCT 287 occurs in the project footprint as four condition types: • Very low • Low • Moderate • High Exotic species are present in moderate densities throughout PCT 287. Typically higher covers of exotic species were recorded in the Very low and Low condition zones, with the exotic pasture grass *Lolium perenne* (Perennial Ryegrass), and exotic forbs *Rumex acetosella* (Sheep Sorrel) and *Trifolium subterraneum* (Subterranean Clover) frequently present as well as the climber *Rubus fruticosus* sp. agg. (Blackberry complex).
Justification of evidence used to identify the PCT	Most of PCT 287 in the project footprint occurs on Mitchell Landscapes characterised by steep to undulating hills (Adelong Granite Ranges, Boorowa Volcanics, Carabost Hills and Ranges, Gunning Hills and Minjary Hills and Ranges), which aligns with hillslopes in hill landform patterns characteristic of PCT 287. Canopy species recorded in the PCT include a co-dominance of *Eucalyptus goniocalyx, Eucalyptus macrorhyncha* and *Eucalyptus polyanthemos,* which are all characteristic canopy species of PCT 287. The diagnostic species *Eucalyptus melliodora* was also recorded in two plots. A shrub layer is absent in the plots sampled. Plots sampled confirm the presence of groundcover species diagnostic of PCT 287. These diagnostic species present include *Bothriochloa macra, Lomandra filiformis* subsp. *coriacea, Poa sieberiana* var. *sieberiana*, *Rytidosperma racemosum* var. *racemosum*, *Cymbonotus* sp., *Epilobium billardiereanum, Gonocarpus tetragynus, Hypericum gramineum, Lythrum hyssopifolia, Scutellaria humilis, Tricoryne elatior* and *Wahlenbergia communis*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 287 within the project footprint is shown in Figure 6-1.

PCT 287 – Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion

Photos

Photo 24. Very low condition woodland (photo taken at plot YG0138B4)

Photo 25. Low condition woodland (photo taken at plot YG0130F0)

PCT 287 – Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion

Photo 26. High condition woodland (photo taken at plot YG01331A)

Number of plots sampled

Eleven plots were sampled within the Inland Slopes and Murrumbateman bioregions:

Very low condition:

- YG0138B4

Low condition:

- YG0130F0
- YG013BA5
- BY1060BE
- WM058E47

Moderate condition:

- YG013560
- YG013C29
- BY15469A

High condition:

- YG030D4A
- YG013C042
- YG01331A

PCT 290 - Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Upper Riverina Dry Sclerophyll Forests
Conservation status	PCT 290 is not associated with a TEC.
% remaining in NSW	33
Extent	PCT 290 occurs on well-drained upper hillslopes and hillcrests on steep hills mainly in the southern part of the upper slopes sub-region of the NSW South-western Slopes Bioregion from the upper Murray River region to Livingstone National Park south of Wagga Wagga. The PCT is associated with shallow red to brown to yellow podzolic sandy clay-loam soils derived mainly from siliceous metamorphic, sedimentary and igneous substrates.
Diagnostic canopy species for PCT 290	The canopy is dominated by *Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus polyanthemos* (Red Box) and *Eucalyptus goniocalyx* (Long-leaved Box), with *Eucalyptus rossii* (Inland Scribbly Gum) and *Eucalyptus blakelyi* (Blakely's Red Gum) occasionally present.
Diagnostic midstorey species for PCT 290	The midstorey of PCT 290 is typically sparse, however may be denser in areas with a less frequent fire regime. Diagnostic midstorey species include *Brachyloma daphnoides* subsp. *daphnoides*, *Dillwynia phylicoides* (Parrot-pea), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Xanthorrhoea glauca* subsp. *angustifolia*, *Acacia dealbata* (Silver Wattle), *Phyllanthus hirtellus* (Thyme Spurge), *Daviesia leptophylla*, *Calytrix tetragona* (Common Fringe-myrtle), *Pultenaea procumbens*, *Acacia paradoxa* (Kangaroo Thorn), *Leucopogon ericoides* (Pink Beard-heath), *Leucopogon attenuatus* (A Beard-heath), *Lissanthe strigosa* subsp. *strigosa* (Peach Heath), *Melichrus urceolatus* (Urn Heath), *Grevillea ramosissima* (Fan Grevillea) and *Grevillea floribunda* (Seven Dwarfs Grevillea).
Diagnostic groundcover species for PCT 290	The ground cover is typically mid-dense to sparse and includes species such as: *Poa sieberiana* var. *sieberiana* (Snowgrass), *Rytidosperma erianthum* (Wallaby Grass), *Gonocarpus tetragynus* (Poverty Raspwort), *Cheilanthes sieberi* subsp. *sieberi* (Rock Fern), *Goodenia hederacea* subsp. *hederacea*, *Stypandra glauca* (Nodding Blue Lily), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Lomandra filiformis* subsp. *filiformis*, *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Hypericum gramineum* (Small St John's Wort), *Poranthera microphylla* (Small Poranthera), *Craspedia variabilis* (Common Billy-buttons), *Dichelachne micrantha* (Shorthair Plumegrass), *Dichelachne rara*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Senecio prenanthoides*, *Thysanotus patersonii* (Twining Fringe-Lily), *Opercularia hispida* (Hairy Stinkweed), *Pomax umbellata* (Pomax), *Microseris lanceolata* (Yam Daisy), *Microtis unifolia* (Common Onion Orchid), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell), *Drosera auriculata*, *Senecio quadridentatus* (Cotton Fireweed), *Senecio bathurstianus*, *Lepidosperma laterale* (Variable Sword-sedge), *Geranium solanderi* var. *solanderi*, *Hovea linearis*, *Hardenbergia violacea* (False Sarsaparilla), *Ranunculus sessiliflorus* var. *sessiliflorus*, *Daucus glochidiatus* (Native Carrot), *Drosera auriculata* and *Crassula sieberiana* (Australian Stonecrop).
Condition and presence of weeds	PCT 290 occurs in the project footprint as three condition types: • Very low • Low • High

PCT 290 - Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	
	Exotic species are present throughout PCT 290, typically with higher covers recorded in the Very low and Low condition zones, with a large portion of weeds comprising wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used to identify the PCT	In the project footprint, this PCT occurs predominantly on Mitchell Landscapes characterised by steep hillslopes (Tooma Granite Ranges, Carabost Hills and Ranges, Minjary Hills and Ranges, Dalton Hills, Boorowa Volcanics and Doura Volcanics). Given this, the vegetation mapped in the project footprint aligns to the landscape description for PCT 290. Additionally, a co-dominance of *Eucalyptus macrorhyncha* and *Eucalyptus rossii* were recorded throughout this PCT. Other common canopy species recorded in the plots sampled include *Eucalyptus polyanthemos* and *Eucalyptus goniocalyx*, and to a lesser extent *Eucalyptus blakelyi*. These canopy species recorded in the plots sampled align to PCT 290. In the wooded areas of PCT 290 the midstorey ranged from a sparse to mid-dense cover of shrubs which is characteristic of PCT 290. Diagnostic shrub species recorded in the plots sampled include *Brachyloma daphnoides* subsp. *daphnoides*, *Hibbertia obtusifolia*, *Acacia dealbata*, *Phyllanthus hirtellus*, *Pultenaea procumbens*, *Leucopogon ericoides*, *Lissanthe strigosa* subsp. *strigosa* and *Melichrus urceolatus*. *Cassinia sifton* (Sifton's Bush) was also recorded in majority of the plots with a moderate cover. *Cassinia sifton* is a pioneer species that is known to colonise disturbed areas, therefore its presence in the sampled plots can be attributed to past and present disturbances. Plots sampled confirm the presence of groundcover species diagnostic of PCT 290, including *Poa sieberiana* var. *sieberiana*, *Gonocarpus tetragynus, Cheilanthes sieberi* subsp. *sieberi*, *Goodenia hederacea* subsp. *hederacea*, *Stypandra glauca*, *Lomandra filiformis* subsp. *coriacea*, *Lomandra filiformis* subsp. *filiformis*, *Dianella revoluta* var. *revoluta*, *Hypericum gramineum*, *Poranthera microphylla*, *Dichelachne micrantha*, *Hydrocotyle laxiflora*, *Senecio prenanthoides*, *Pomax umbellata*, *Wahlenbergia stricta* subsp. *stricta*, Drosera peltata, *Lepidosperma laterale*, *Geranium solanderi* var. *solanderi*, *Hovea linearis*, *Hardenbergia violacea*, *Daucus glochidiatus* and *Crassula sieberiana*. *Hardenbergia violacea* and *Cheilanthes sieberi* were also recorded throughout the PCT. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 290 within the project footprint is shown in Figure 6-1.

PCT 290 - Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	
Photos	 **Photo 27. Very low condition woodland (photo taken at plot WM0598AD)**

PCT 290 - Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion

Photo 28. Low condition woodland (photo taken at plot YG035805)

Photo 29. High condition woodland (photo taken at plot WM057IS2)

Number of plots sampled	Eight plots were sampled within the Inland Slopes bioregion: Very low condition: • WM0598AD • WM059CE5 Low condition:

PCT 290 - Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	
	• YG035805 • WM058DCC • WM0580FD • WM05876E High condition: • WM057IS2 • WM057742

	PCT 294 – Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Upper Riverina Dry Sclerophyll Forests
Conservation status	PCT 294 is not associated with a TEC.
% remaining in NSW	53
Extent	PCT 294 occurs on shallow clay loam soils derived from sedimentary and igneous substrates (granite) in hill landform patterns on hillslope landform elements in the southern part of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 294	PCT 294 is typically dominated by *Eucalyptus nortonii* (Nortons Box) with *Eucalyptus polyanthemos* (Red Box). *Eucalyptus macrorhyncha* (Red Stringybark) and *Eucalyptus albens* (White Box) is often co-occurring.
Diagnostic midstorey species for PCT 294	The shrub layer of PCT 294 is very sparse and may include *Acacia dealbata* (Silver Wattle), *Cassinia arculata* (Dolly Bush), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Calytrix tetragona* (Common Fringe-myrtle), and *Pultenaea procumbens*.
Diagnostic groundcover species for PCT 294	The diagnostic grass species of PCT 294 include *Joycea pallida* (Silvertop Wallaby Grass), *Poa sieberiana* (Snowgrass), *Elymus scaber var. scaber* (Wheatgrass), *Microlaena stipoides var. stipoides* (weeping grass), *Austrodanthonia pilosa* (Smooth-flowered Wallaby Grass), *Dichelachne hirtella* (Plumegrass), and *Echinopogon ovatus* (Forest Hedgehog Grass). The graminioise *Lomandra filiformis subsp. coriacea* (wattle Matt-rush) is usually common and the rush *Luzula densiflora* (Woodrush) is often present. Forb species include *Acaena novae-zelandiae* (bidgee-widgee), *Gonocarpus tetragynus* (Poverty Raspwort), *Dichondra repens* (Kidney Weed), *Hydrocotyle laxiflora* (Stinking Pennywort), *Cymbonotus preissianus* (Austral Bear's Ear), *Rumex brownii* (Swamp Dock), *Poranthera microphylla* (Small Poranthera), *Daucus glochidiatus* (Native Carrot), *Wahlenbergia stricta supsp*. Stricta (Tall Bluebell), *Dichopogon strictus* (Chocolate Lily), *Myosotis discolor* (Forget-me-not), *Geranium solanderi var. solanderi, Geranium. retrorsum, Senecio tenuilflorus, Senecio quadridentatus* (Cotton Fireweed), *Senecio bathurstianus,* and *Senecio prenanthoides*.
Condition and presence of weeds	PCT 294 occurs in the project footprint as two condition types: • Low • Moderate Exotic species are present throughout PCT 294, with a large portion of weeds comprising of wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used to identify the PCT	PCT 294 within the project footprint is situated on the Doura Volcanics Mitchell Landscape which is associated with rolling and undulating hills with occasional peaks on Silurian dacite, crystal tuff, sandstone and minor limestone. This is generally consistent with the landscape description of PCT 294. Plots sampled within PCT 294 had a canopy dominated by *Eucalyptus macrorhyncha* with *Eucalyptus albens* also present. *Eucalyptus polyanthemos* and *Eucalyptus nortonii* were not recorded within a plot however were often co-dominant canopy species. While *Eucalyptus nortonii* was not always the dominant

	canopy species, PCT 294 is still considered to be the best fit PCT, particularly with the presence of all the diagnostic canopy species. The shrub layer of PCT 294 within the project footprint contained the diagnostic species *Cassinia aculeata.* Diagnostic groundcover species for PCT 294 present within the plots sampled for PCT 294 include *Geranium solanderi, Daucus glochidiatus, Wahlenbergia stricta, Elymus scaber, Rumex brownie*, *Wurmbea dioica subsp. dioica*, *Cheilanthes austrotenuifolia*, *Microlaena stipoides*, *Oxalis perennans*, *Senecio quadridentatus* and *Senecio bathurstianus.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 294 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 30. Low condition woodland (photo taken at plot 28)**

	 Photo 31. Moderate condition woodland (photo taken at plot 22)
Number of plots sampled	Five plots were sampled within the Inland Slopes bioregion: Low condition: • 28 Moderate condition: • 22 • 23 • 27 • 29

PCT 295 - Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
Vegetation formation	Wet Sclerophyll Forests (Grassy sub-formation)
Vegetation class	Southern Tableland Wet Sclerophyll Forests
Conservation status	PCT 295 is not associated with a TEC.
% remaining in NSW	60
Extent	PCT 295 occurs on flats and sheltered southern and eastern aspects in hill or mountain landform patterns in the southern portion of the NSW South-western Slopes Bioregion and south-western edge of the South Eastern Highlands Bioregion. Typical lithology includes deep brown to loamy clay soils including red and brown podosols derived from granite, metamorphic and sedimentary rocks.
Diagnostic canopy species for PCT 295	The canopy is often dominated by *Eucalyptus robertsonii* subsp. *robertsonii* (Robertson's Peppermint) with *Eucalyptus macrorhyncha* (Red Stringybark), and sometimes with *Eucalyptus nortonii* (Large-flowered Bundy) or *Eucalyptus mannifera* subsp. *mannifera.* Other species that may occur in PCT 295 are *Eucalyptus dives* (Broad-leaved Peppermint) and *Eucalyptus bicostata* (Eurabbie).
Diagnostic midstorey species for PCT 295	The midstorey is typically sparse and includes *Acacia dealbata* (Silver Wattle), *Platylobium formosum* subsp. *formosum*, *Acrotriche serrulata* (Honeypots), *Acacia rubida* (Red-stemmed Wattle), *Cassinia sifton* (Sifton Bush), *Pimelea linifolia* subsp. *linifolia*, *Hibbertia obtusifolia* (Hoary Guinea Flower), *Olearia erubescens* (Pink-tip Daisy-bush), *Daviesia latifolia* (Bitter-pea), *Acrotriche divaricata*, *Acacia melanoxylon* (Blackwood), *Cassinia longifolia*, *Dodonaea viscosa* subsp. *spatulata* (Broad-leaf Hopbush), *Goodia lotifolia* var. *lotifolia* (Golden Tip), *Lomatia myricoides* (River Lomatia) and *Leucopogon virgatus* (Common Beard-heath).
Diagnostic groundcover species for PCT 295	The ground cover is typically dense and is dominated by grasses, forbs and ferns. Grass and grass like species include *Elymus scaber* subsp. *scaber* (Common Wheatgrass), *Lomandra longifolia* (Spiny-headed Mat-rush), *Luzula densiflora* (Woodrush), *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Poa sieberiana* var. *cyanophylla*, *Poa sieberiana* var. *sieberiana* (Snowgrass), *Rytidosperma erianthum* (Wallaby Grass) and *Rytidosperma pallidum* (Redanther Wallaby Grass). Forbs characteristic of PCT 295 include *Acaena novae-zelandiae* (Bidgee-widgee), *Arthropodium milleflorum* (Pale Vanilla-lily), *Asperula conferta* (Common Woodruff), *Craspedia variabilis* (Common Billy-buttons), *Cynoglossum suaveolens* (Sweet Hound's-tongue), *Daucus glochidiatus* (Native Carrot), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Euchiton gymnocephalus, Galium migransm, Galium propinquum* (Maori Bedstraw), *Geranium solanderi* var. *solanderi*, *Gonocarpus tetragynus* (Poverty Raspwort), *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Lagenifera stipitata* (Blue Bottle-daisy), *Oxalis perennans, Plantago varia, Poranthera microphylla* (Small Poranthera), *Ranunculus lappaceus* (Common Buttercup), *Rumex brownii* (Swamp Dock), *Senecio prenanthoides, Senecio tenuiflorus* (A fireweed), *Stellaria pungens* (Prickly Starwort), *Veronica calycina* (Hairy Speedwell), *Viola betonicifolia* (Native Violet), *Viola hederacea* (Ivy-leaved Violet) and *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell). Climbers which are diagnostic species for PCT 295 include *Billardiera scandens* var. *scandens*, *Clematis aristata* (Old Man's Beard), *Glycine clandestina* (Twining glycine), *Glycine tabacina* (Variable

PCT 295 - Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
	Glycine), *Hardenbergia violacea* (False Sarsaparilla) and *Rubus parvifolius* (Native Raspberry) while diagnostic ferns species include *Asplenium flabellifolium* (Necklace Fern), *Blechnum nudum* (Fishbone Water Fern), *Pteridium esculentum* (Bracken) and *Pteridium esculentum* (Bracken).
Condition and presence of weeds	PCT 295 occurs in the project footprint as two condition types: • Very low • Moderate Exotic species are present in ranging densities throughout PCT 295, typically with higher covers recorded in the Very low condition zone. Exotic species commonly present comprise the forbs *Carthamus lanatus* (Saffron Thistle) and *Hypericum perforatum* (St. John's Wort) and the grasses *Anthoxanthum odoratum* (Sweet Vernal Grass), *Cynosurus echinatus* (Rough Dog's Tail) and *Vulpia myuros* (Rat's Tail Fescue).
Justification of evidence used to identify the PCT	PCT 295 occurs on flats and sheltered southern and eastern aspects in hill or mountain landform patterns in the southern portion of the NSW South-western Slopes Bioregion and south-western edge of the South Eastern Highlands Bioregion. The PCT in the project footprint is mapped on the Minjary Hills and Ranges, Mt Bundarbo Basalt Caps and Young Hills and Slopes Mitchell Landscapes, which are all characterised with hill or mountain landform patterns. Additionally, diagnostic canopy species of PCT 295 include *Eucalyptus macrorhyncha, Eucalyptus robertsonii, Eucalyptus dives* and *Eucalyptus mannifera* subsp. *mannifera*, all of which were observed throughout this PCT. The midstorey in the plots sampled was sparse which is characteristic of PCT 295. Where present midstorey species were diagnostic of PCT 295 and include *Acacia melanoxylon* and *Acrotriche serrulata*. Plots sampled confirm a dense groundcover and the presence of species diagnostic of PCT 295, including *Elymus scaber* subsp. *scaber*, *Microlaena stipoides* var. *stipoides*, *Acaena novae-zelandiae, Gonocarpus tetragynus*, *Rumex brownii* and *Pteridium esculentum*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 295 within the project footprint is shown in Figure 6-1.

PCT 295 - Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Photos	 **Photo 32. Moderate condition woodland (photo taken at plot MA-092C)**
Number of plots sampled	Five plots were sampled within the Bondo bioregion: Very low condition: • MA09215E Moderate condition: • MA-014A2 • MA-092C • MA09208C • MA092B25

	PCT 296 – Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 296 is not associated with a TEC.
% remaining in NSW	40
Extent	PCT 296 occurs at altitudes over 500 m on light grey to brown podzolic loam or clay soils derived from granite or metasediments on steep hillslopes in hill or mountain landform patterns in the Woomargama to Tumut regions in the upper slopes sub-region of the NSW South-western Slopes Bioregion and adjacent South Eastern Highlands Bioregion.
Diagnostic canopy species for PCT 296	PCT 296 is typically dominated by Brittle Gum (*Eucalyptus mannifera subsp. manifera*) with Broad-leaved Peppermint (*Eucalyptus dives*) and Red Stringybark (*Eucalyptus macrorhyncha*)
Diagnostic midstorey species for PCT 296	Shrubs are sparse to mid-dense and may be diverse. They include *Hibbertia obtusifolia* (Hoary Guinea Flower), *Monotoca scoparia*, *Platylobium formosum subsp. formosum*, *Melichrus urceolatus* (Urn Heath), *Acacia dealbata* (Silver Wattle), *Grevillea polybractea* (Crimson Grevillea), *Dillwynia phylicoides* (Parrot-pea), *Boronia nana var. hyssopifolia*, *Hovea linearis*, *Daviesia latifolia* (Bitter-pea), *Cassinia aculeata* (Dolly Bush), *Acacia buxifolia* subsp. *buxifolia* (Box-leaved Wattle), *Acacia rubida* (Red-stemmed Wattle), *Acacia pravissima* (Wedge-leaved Wattle), *Indigofera australis* (Australian Indigo), *Persoonia chamaepeuce*, *Correa reflexa var. reflexa*, *Gompholobium virgatum var. virgatum*, *Grevillea lanigera* (Woolly Grevillea), *Cassinia longifolia* and *Bursaria spinosa* subsp. *lasiophylla* (Native Blackthorn).
Diagnostic groundcover species for PCT 296	The ground cover is sparse to mid-dense with grasses and forbs such as *Senecio tenuiflorus* (A fireweed), *Joycea pallida* (Silvertop Wallaby Grass), *Gonocarpus tetragynus* (Poverty Raspwort), *Hardenbergia violacea* (False Sarsaparilla), *Dianella revoluta var. revoluta* (A Blue Flax Lily), *Pomax umbellate*, *Poa sieberiana var. sieberiana* (Snowgrass), *Dichopogon strictus* (Chocolate Lily), *Poranthera microphylla* (Small Poranthera), *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Acaena novae-zelandiae* (Bidgee-widgee), *Stylidium graminifolium* (Grass Triggerplant), *Elymus scaber var. scaber* (Wheatgrass), *Thysanotus patersonii* (Twining Fringe-Lily), *Luzula flaccida* (Woodrush), *Drosera auriculata*, *Lomandra filiformis subsp. filiformis*, *Wahlenbergia stricta subsp. stricta* (Tall Bluebell) and *Billardiera scandens var. scandens*.
Condition and presence of weeds	PCT 296 occurs in the project footprint in Low condition.
Justification of evidence used to identify the PCT	Due to the small size of the patch of PCT 296 (0.10 ha) no plots were completed within this PCT. PCT 296 within the project footprint is situated within the Mt Bundarbo Basalt Caps Mitchell landscape which is associated with Flat topped hills and peaks of Tertiary basalt overlying Silurian-Devonian granite or Silurian dacite, andesite and sandstone. The soils are thin stony brown loams, while rubbly slopes with brown loams extend below the lower limit of the basalt onto thin skeletal clays and clay loams from underlying volcanics or deeper gritty clays from granite. This generally aligns with the landscape formation of PCT 296 which is described as occurring on light grey to brown podzolic loam or clay soils derived from granite or metasediments. The altitude of PCT 296 within the project footprint is also

	consistent with PCT 296, occurring at 750 m asl, which is over 500 m asl as stated in the landscape description. Therefore, the landscape position of PCT 296 within the project footprint aligns with PCT 296. The extent of PCT 296 within the project footprint is shown in Figure 6-1.
Photos	**N/A**
Number of plots sampled	No plots were completed within PCT 296.

PCT 297 - Broad-leaved Peppermint - Norton's Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Upper Riverina Dry Sclerophyll Forests
Conservation status	PCT 297 is not associated with a TEC.
% remaining in NSW	62
Extent	PCT 297 typically occurs on shallow loamy clay soils derived from igneous, sedimentary or metamorphic rocks on ridges and upper slopes in the hills landform pattern in the southern section of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 297	The canopy is often dominated by *Eucalyptus dives* (Broad-leaved Peppermint), *Eucalyptus nortonii* (Norton's Box) and *Eucalyptus macrorhyncha* (Red Stringybark). *Eucalyptus mannifera* subsp. *mannifera* (Brittle Gum) may also be present.
Diagnostic midstorey species for PCT 297	The midstorey is typically sparse and includes *Acacia dealbata* (Silver Wattle), *Cassinia aculeata* (Dolly Bush), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Pimelea linifolia* subsp. *linifolia*, *Daviesia latifolia* (Bitter-pea), *Dillwynia phylicoides* (Parrot-pea), *Hibbertia calycina* (Lesser Guinea Flower), *Platylobium formosum* subsp. *formosum*, *Melichrus urceolatus* (Urn Heath) and *Acrotriche serrulata* (Honeypots).
Diagnostic groundcover species for PCT 297	The ground cover is typically mid-dense. Grass and grass like diagnostic species include *Echinopogon ovatus* (Forest Hedgehog Grass), *Elymus scaber var. scaber* (Wheatgrass), *Lomandra filiformis* subsp. *filiformis*, *Poa sieberiana* var. *sieberiana* (Snowgrass) and *Rytidosperma pallidum* (Redanther Wallaby Grass). Characteristic forbs of PCT 297 include *Acaena novae-zelandiae* (Bidgee-widgee), *Brachyscome multifida* var. *multifida*, *Brunonia australis* (Blue Pincushion), *Euchiton gymnocephalus*, *Gonocarpus tetragynus* (Poverty Raspwort), *Hovea linearis*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Oxalis perennans*, *Plantago hispida, Plantago varia, Podolepis jaceoides* (Showy Copper-wire Daisy), *Senecio quadridentatus* (Cotton Fireweed), *Stellaria pungens* (Prickly Starwort), *Viola betonicifolia* (Native Violet), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell) and *Xerochrysum viscosum* (Sticky Everlasting). The fern *Pteridium esculentum* (Bracken) may also be present.
Condition and presence of weeds	PCT 297 occurs in the project footprint as two condition types: • Low • Moderate Exotic species are present in varying densities throughout PCT 297, typically with higher covers recorded in the Low condition zone. Frequently recorded exotic forbs include *Hypericum perforatum* (St. Johns Wort) and *Hypochaeris radicata* (Catsear) and the climber *Rubus fruticosus* sp. agg. (Blackberry complex).
Justification of evidence used	PCT 297 occurs on shallow loamy clay soils derived from igneous, sedimentary or metamorphic rocks on ridges and upper slopes in the hills landform pattern in the southern section of the NSW South-western Slopes Bioregion. The PCT in the project footprint is mapped on the Carabost Hills and

PCT 297 - Broad-leaved Peppermint - Norton's Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	
to identify the PCT	Ranges Mitchell Landscape which is characterised by thin stony gradational red brown earth and red-yellow texture-contrast soils. The diagnostic canopy species of PCT 297 *Eucalyptus nortonii* was recorded as the dominant species across the plots sampled. The midstorey in the plots sampled was sparse which is also characteristic of PCT 297. Where present, midstorey species were diagnostic of PCT 297 and include *Hibbertia obtusifolia, Pimelea* sp. and *Melichrus urceolatus*. Plots sampled confirm a dense groundcover and the presence of species diagnostic of PCT 297, including *Echinopogon ovatus, Lomandra filiformis* subsp. *filiformis*, *Poa sieberiana* var. *sieberiana*, *Acaena novae-zelandiae, Euchiton* sp., *Gonocarpus tetragynus, Hovea linearis, Hydrocotyle laxiflora, Hypericum gramineum, Oxalis perennans, Senecio quadridentatus, Stellaria* sp., *Wahlenbergia stricta* subsp. *stricta* and *Xerochrysum viscosum.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 297 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 33. Low condition woodland (photo taken at plot WM0581E8)**

PCT 297 - Broad-leaved Peppermint - Norton's Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion

Photo 34. Moderate condition woodland (photo taken at plot WM05852D)

Number of plots sampled

Fourteen plots were sampled within the Inland Slopes bioregion:

Low condition:

- WM058F1D
- WM058EAA
- WM0581E8
- WM0584DB
- WM0587EC
- WM058C4E

Moderate condition:

- WM05881E
- WM05852D
- WM058C61
- WM058BE9
- WM0581C0
- WM058F00
- WM058E16
- WM058D03

PCT 299 - Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 299 is not associated with a TEC.
% remaining in NSW	60
Extent	PCT 299 occurs on valley flats and along streams in mountain landforms in the southern-most part of the Inland Slopes subregion of the NSW South Western Slopes Bioregion and in the adjacent areas of the South Eastern Highlands Bioregion, generally between 350 and 850 m altitude, and is associated with Bondo and Inland Slopes subregions.
Diagnostic canopy species for PCT 299	The canopy of PCT 299 is dominated by *Eucalyptus viminalis* (Ribbon Gum) and *Eucalyptus robertsonii* (Robertsons Peppermint) with *Eucalyptus bridgesiana* (Apple Box) also sometimes present.
Diagnostic midstorey species for PCT 299	The shrub layer is very sparse and commonly includes *Acacia dealbata* (Mountain Cedar Wattle) and *Acacia melanoxylon* (Blackwood).
Diagnostic groundcover species for PCT 299	The ground cover is dense and may be dominated by grasses and forbs such as *Pteridium esculentum* (Bracken)*, Acaena novae-zelandiae* (Bidgee-widgee), *Geranium solanderi var. solanderi, Echinopogon ovatus* (Forest Hedgehog Grass), *Stellaria pungens* (Prickly Starwort), *Bothriochloa macra* (Red Grass)*, Acrotriche serrulata* (Honeypots), *Carex appressa* (Tall Sedge), *Hydrocotyle laxiflora* (Stinking Pennywort), *Elymus scaber var. scaber* (Wheatgrass)*, Cymbonotus preissianus* (Austral Bear's Ear), *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Senecio tenuiflorus* (A fireweed)*, Rumex brownii* (Swamp Dock), *Acaena echinate* (Sheep's Burr), *Gonocarpus tetragynus* (Poverty Raspwort), *Lagenifera stipitate, Asperula conferta* (Common Woodruff), *Viola betonicifolia* (Native Violet), *Daucus glochidiatus* (Native Carrot), *Luzula flaccida* (Woodrush), *Alternanthera denticulate, Polystichum proliferum* (Mother Shield Fern) and *Juncus amabilis.*
Condition and presence of weeds	PCT 299 occurs in the Project footprint as three condition types: • Very low • Low • Moderate Exotic species are present in ranging densities throughout PCT 299, typically with higher covers recorded in the Very low and Low condition zones, and a large portion of weeds comprising of wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used to identify the PCT	Within the project footprint, PCT 299 is generally present along or in close proximity to streams or on valley flats in mountainous terrain. This is consistent with the description of the landscape position of PCT 299.

PCT 299 - Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
	Diagnostic canopy species of PCT 299 include *Eucalyptus viminalis* and *Eucalyptus macrorhyncha* both of which were recorded in this PCT. *Eucalyptus robertsonii subsp. robertsonii* and *Eucalyptus bridgesiana* are also diagnostic species, but were not recorded in this PCT. Plots sampled confirm the presence of groundcover species diagnostic of PCT 299, including *Pteridium esculentum, Geranium solanderi, Echinopogon ovatus, Bothriochloa macra, Hydrocotyle laxiflora, Elymus scaber, Microlaena stipoides, Senecio tenuiflorus* and *Gonocarpus tetragynus*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 299 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 35. Very low condition woodland (photo taken at plot MA-092A)**

PCT 299 - Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Photo 36. Low condition woodland (photo taken at plot MA-092B)

Photo 37. Moderate condition woodland (photo taken at plot WM0948A5)

Number of plots sampled	Nineteen plots were sampled within the Inland Slopes bioregion: Very low condition: • MA0925E7 • MA0924A0

PCT 299 - Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
	• MA-092A • MA092947 • MA092CD8 Low condition: • MA-092B • MA09278F Moderate condition: • MA092C50 • WM0948A5 • WM06034286 • MA092B90 • WM06034F98 • WM06034B60 • MA092259 • WM06034A41 • MA092743 • WM0940C2 • WM06034CF4 • MA092318

PCT 300 Ribbon Gum – Narrow-leaved (Robertsons) Peppermint montane fern – grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	
Vegetation formation	Wet Sclerophyll Forests (Grassy sub-formation)
Vegetation class	Southern Tableland Wet Sclerophyll Forests
Conservation status	PCT 300 is not associated with a TEC.
% remaining in NSW	80
Extent	PCT 300 occurs on deep red-brown loam soils derived from granite and sedimentary substrates on sheltered hillslopes in a mountain landform pattern in elevations between 700 and 1150 m. It is found on the south-western edge of the south Eastern Highlands Bioregion including in Kosciuszko National Park and in the southern Upper Slopes sub-region of the NSW South-western Slopes Bioregion including a patch on Mount Ikes in Boogandyera Nature Reserve where a pure stand of *Eucalyptus viminalis* occurs on the summit.
Diagnostic canopy species for PCT 300	PCT 300 is described as a tall to very tall open forest dominated by Ribbon Gum *(Eucalyptus viminalis)* with Robertsons Peppermint *(Eucalyptus robertsonii)* and occasionally Broad-leaved Peppermint *(Eucalyptus dives).*
Diagnostic midstorey species for PCT 300	The midstorey may be dense or sparse depending on the time since it was last burnt. Midstorey species present include *Acacia dealbata* (Silver Wattle)*, Cassinia aculeata* (Dolly Bush)*, Lomatia myricoides* (River Lomatia)*, Platylobium formosum subsp. formosum, Acrotriche serrulata* (Honeypots)*, Senecio velleioides, Coprosma quadrifida* (Prickly Currant Bush)*, Coprosma hirtella* (Coffee-berry) *and Acacia melanoxylon* (Blackwood). Ferns including *Polystichum proliferum* (Mother Shield Fern) and *Pteridium esculentum* (Bracken) may also be common.
Diagnostic groundcover species for PCT 300	Characteristic ground cover species of this PCT include the grasses *Poa meionectes, Microlaena stipoides var. stipoides* (Weeping Grass)*, Austrofestuca eriopoda* (Snow Fescue) and *Elymus scaber var. scaber* (Wheatgrass). A number of forb species may also be present including *Stellaria pungens* (Prickly Starwort)*, Laginifera stipitata* (Blue Bottle-daisy)*, Acaena novae-zelandiae* (Bidgee-widgee)*, Viola betonicifolia* (Native Violet)*, Dianella revoluta var. revoluta, Dianella tasmanica, Hydrocotyle laxiflora* (Stinking Pennywort) *and Dichondra repens* (Kidney weed). The rushes *Luzula densiflora* (Woodrush) or Luzula flaccida (Woodrush) may be common while the climbers *Glycine clandestina* (Twining Glycine) and *Clematis aristata* (Old Man's Beard) may also be present.
Condition and presence of weeds	PCT 300 occurs in the project footprint as three condition types: • Low • Moderate • High Exotic species are present in ranging densities throughout PCT 300, typically with higher covers recorded in the Low condition zone, and a large portion of weeds comprising of wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.

PCT 300 Ribbon Gum – Narrow-leaved (Robertsons) Peppermint montane fern – grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	
Justification of evidence used to identify the PCT	PCT 300 within the project footprint is located within the Tooma Granite Ranges and Adelong Granite Ranges Mitchell Landscapes. The Tooma Granite Ranges landscape is associated with rounded hills, ranges and plateau om Silurian gneissic granite with red and yellow gritty texture-contrast soils. The Adelong Granite Ranges landscape is associated with steep hills and peaks on Silurian gneissic granite and Devonian massive granite. The soils are coarse loamy sand between rock outcrops and in crevices, then gritty gradational profiles developing to yellow harsh texture-contrast soils on lower slopes. The landscape description of PCT 300 generally aligns to these landscapes, described as deep red-brown loam soils derived from granite and sedimentary substrates on sheltered hillslopes. The diagnostic canopy species for PCT 300, *Eucalyptus robertsonii,* was dominant throughout PCT 300 within the project footprint. However, the other diagnostic canopy species for PCT 300, *Eucalyptus viminalis* and *Eucalyptus dives,* were not recorded within a plot. Midstorey species diagnostic of PCT 300 were recorded, including *Acacia dealbata*, *Platylobium formosum* and *Coprosma hirtella*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 300, including *Pteridium esculentum, Acaena novae-zelandiae, Stellaria pungens, Rubus parvifolius, Viola betonicifolia, Wahlenbergia stricta, Elymus scaber, Glycine clandestine, Geranium solanderi, Hydrocotyle laxiflora, Cynoglossum suaveolens, Asperula conferta, Glycine clandestine, Clematis aristate* and *Gonocarpus tetragynus*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 300 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 38. Low condition woodland (photo taken at plot MA094OUT2)**

PCT 300 Ribbon Gum – Narrow-leaved (Robertsons) Peppermint montane fern – grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

Photo 39. Moderate condition woodland (photo taken at plot WM094E1)

Photo 40. High condition woodland (photo taken at plot WM0945E7)

PCT 300 Ribbon Gum – Narrow-leaved (Robertsons) Peppermint montane fern – grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	
Number of plots sampled	Ten plots were sampled within the Snowy Mountain bioregion: Low condition: • MA094OUT2 • WM094250 • WM0945C9 Moderate condition: • WM094E1 High condition: • WM094A1B • WM0945E7 • WM0941A7 • WM094765 • WM094607 • WM0944C5

PCT 301 - Drooping Sheoke - Ricinocarpos bowmanii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 301 is associated with Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions listed as Endangered under the BC Act.
% remaining in NSW	28
Extent	PCT 301 occurs on shallow dark brown clays being euchrozem or red podzolic soils derived from a narrow band (approximately 50 km) of serpentinite and associated substrates between Coolac - Gundagai and Tumut in the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 301	The canopy is dominated by the small tree *Allocasuarina verticillata* (Drooping Sheoak). Taller trees are scattered and include *Eucalyptus nortonii* (Norton's Box), *Eucalyptus albens* (White Box) and occasionally *Brachychiton populneus* subsp. *populneus* (Kurrajong).
Diagnostic midstorey species for PCT 301	The midstorey is dominated by the diagnostic species *Ricinocarpos bowmanii* (Western Wedding Bush) and *Xanthorrhoea glauca* subsp. *angustifolia*. Other species that may be present include *Acacia implexa* (Hickory Wattle), *Acacia decora* (Western Silver Wattle), *Exocarpos cupressiformis* (Cherry Ballart) and *Acacia penninervis* var. *penninervis* (Mountain Hickory).
Diagnostic groundcover species for PCT 301	The ground cover ranges from sparse on exposed slopes to dense in creek lines. The low lying shrub *Spyridium parvifolium* (Dusty Miller) is common in this PCT. Grass and grass like species characteristic of this PCT include *Themeda triandra* (Kangaroo Grass), *Aristida ramosa* (Purple Wiregrass), *Rytidosperma laeve* (Wallaby Grass), *Bothriochloa macra* (Red Grass), *Poa sieberiana* var. *sieberiana* (Snowgrass), *Panicum effusum* (Hairy Panic), *Austrostipa scabra* subsp. *falcata* (Rough Speargrass), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Rytidosperma racemosum* (Wallaby Grass), *Rytidosperma caespitosum* (Ringed Wallaby Grass), *Rytidosperma pilosum* (Smooth-flowered Wallaby Grass) and *Ptilotus spathulatus* f. spathulatus (Pussy-tails). Forbs include *Clematis microphylla* (Small-leaved Clematis), *Hypericum gramineum* (Small St John's Wort), *Euchiton japonicus* (Creeping Cudweed), *Acaena novae-zelandiae* (Bidgee-widgee), *Geranium solanderi* var. *solanderi*, *Viola betonicifolia* (Native Violet), *Stellaria pungens* (Prickly Starwort), *Senecio quadridentatus* (Cotton Fireweed), *Wahlenbergia communis* (Tufted Bluebell) and *Oxalis exilis.* The fern *Cheilanthes sieberi* subsp. *sieberi* may also occur.
Condition and presence of weeds	PCT 301 occurs in the project footprint as three condition types: • Low • Moderate • High Exotic species are present in ranging densities throughout PCT 301, typically with higher covers recorded in the Low condition zones. The most commonly occurring exotic species include the forb species *Centaurea solstitialis* (St Barnabys Thistle) and *Trifolium repens* (White Clover), and the grass species *Avena fatua* (Wild Oats) and *Bromus catharticus* (Prairie Grass).

PCT 301 - Drooping Sheoke - Ricinocarpos bowmanii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	
Justification of evidence used to identify the PCT	As mentioned above, PCT 301 only occurs on soils derived from a narrow band of serpentinite and associated substrates between Coolac - Gundagai and Tumut. All of ground truthed PCT 301 in the project footprint occurs on the Cootamundra - Tumut Serpentinite and Ultramafics Mitchell Landscape which is consistent with the landscape description of the PCT. Diagnostic canopy species of PCT 301 include *Allocasuarina verticillata* and *Eucalyptus nortonii*, both of which were recorded in this PCT. In the wooded areas the midstorey was dominated by *Xanthorrhoea glauca* subsp. *angustifolia*. Other species diagnostic of PCT 301 were recorded, including *Ricinocarpos bowmanii*, *Acacia implexa*, *Exocarpos cupressiformis* and *Spyridium parvifolium*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 301, including *Spyridium parvifolium, Themeda triandra*, *Aristida ramosa*, *Bothriochloa macra, Poa sieberiana* var. *sieberiana*, *Panicum effusum*, *Lomandra filiformis* subsp. *coriacea*, *Rytidosperma caespitosum,* and *Ptilotus spathulatus* f. *spathulatus*, *Hypericum gramineum*, *Acaena novae-zelandiae*, *Viola betonicifolia*, *Wahlenbergia communis*, *Oxalis exilis* and *Cheilanthes sieberi* subsp. *sieberi*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 301 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.2 and Table 6-12 of the BDAR, PCT 301 in Low, Moderate and High condition aligns to the BC Act listed Coolac-Tumut Serpentinite Shrubby Woodland.
Photos	 **Photo 41. Low condition woodland (photo taken at plot MA-089C)**

PCT 301 - Drooping Sheoke - Ricinocarpos bowmanii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt

Photo 42. Moderate condition woodland (photo taken at plot MA089096)

Photo 43. High condition woodland (photo taken at plot MA-014A5)

Number of plots sampled	Ten plots were sampled within the Inland Slopes bioregion: Low condition:

PCT 301 - Drooping Sheoke - Ricinocarpos bowmanii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	
	• MA-089C • MA-014A4 • MA092960 • MA0926CA Moderate condition: • MA089096 • MA09247B High condition: • MA-089B • MA089A15 • MA-014A5 • MA0929CA

PCT 306 - Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Upper Riverina Dry Sclerophyll Forests
Conservation status	PCT 306 is not associated with a TEC.
% remaining in NSW	66
Extent	PCT 306 is known to occur on steep upper hillslopes or hillcrests in mountainous terrain at 350 - 700 m altitude in the south-western of the South East Highlands and the upper slopes of the South Western Slopes.
Diagnostic canopy species for PCT 306	The canopy is dominated by *Eucalyptus polyanthemos* subsp. *polyanthemos, Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus nortonii* (Large-flowered Bundy) and *Eucalyptus melliodora.*
Diagnostic midstorey species for PCT 306	The midstorey varies in density from dense in protected sites with better soils and lower fire frequency to sparse on shallow soils on steep ridges or where fire is more common. Typical shrub species include *Acacia pravissima* (Wedge-leaved Wattle), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Dillwynia phylicoides* (Parrot-pea), *Pultenaea spinosa* (A Bush Pea), *Grevillea ramosissima subsp. ramosissima and Persoonia rigida.*
Diagnostic groundcover species for PCT 306	The ground cover is mid-dense to sparse and includes the tussock grass *Joycea pallida*, *Stypandra glauca* (Nodding Blue Lily) and *Poa sieberiana var. sieberiana* (Snow Grass) along with *Lomandra filiformis subsp. coriacea* (Wattle Matt-rush) and the forbs *Dianella revoluta var. revoluta* (A Blue Flax Lily), *Pomax umbellata* (Pomax), *Stylidium graminifolium* (Grass Triggerplant) and *Gonocarpus tetragynus* (Poverty Raspwort).
Condition and presence of weeds	PCT 306 occurs in the project footprint as three condition types: • Very low (we do not have access to this condition zone) • Low (we do not have access to this condition zone) • High (we do not have access to this condition zone) As no areas of PCT 306 could be accessed during site surveys, the presence of weeds is unknown. Condition classes of PCT 306 have been conservatively assigned based of aerial imagery.
Justification of evidence used to identify the PCT	Due to access not being granted, no surveys could be undertaken in the area of PCT 306. As a result, the vegetation was assigned to PCT 306 based off regional vegetation mapping, aerial imagery and landscape position. PCT 306 occurs on steep upper hillslopes or hillcrests in mountainous terrain at 350 - 700 m altitude in the south-western of the South East Highlands and the upper slopes of the South Western Slopes. Within the project footprint, PCT 306 is situated between 450 – 700 m altitude, largely on the upper slopes and crests which is consistent with the landscape position of PCT 306. The PCT in the project footprint occurs predominantly in the Adelong Granite Ranges Mitchell Landscape and to a smaller extent in the Minjary Hills and Ranges Landscape.

PCT 306 - Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	
	The Riverina Bioregion Extant Vegetation Map (DPIE 2019) was referenced in the mapping of PCT 306 in these areas, with the current mapping often conforming to the PCT assignment in the Riverina Bioregion Extant Vegetation Map. The extent of PCT 306 within the project footprint is shown in Figure 6-1.
Photos	**N/A**
Number of plots sampled	N/A

PCT 314 - Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Upper Riverina Dry Sclerophyll Forests
Conservation status	PCT 314 is not associated with a TEC.
% remaining in NSW	50
Extent	PCT 314 is known to occur on scree over red earth soils derived from basalt on slopes in a very restricted area near Bogandyera Nature Reserve south of Tumbarumba in the upper Murray River valley in the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 314	The canopy is dominated by *Eucalyptus bridgesiana* (Apple Box) and *Eucalyptus macrorhyncha* (Red Stringybark).
Diagnostic midstorey species for PCT 314	The midstorey is typically sparse with species such as *Dodonaea viscosa* subsp. *spatulata* (Broad-leaf Hopbush), *Bursaria spinosa* subsp. *lasiophylla* (Native Blackthorn), *Indigofera australis* (Australian Indigo), *Cassinia longifolia, Acacia dealbata* (Silver Wattle) and *Rubus parvifolius* (Native Raspberry).
Diagnostic groundcover species for PCT 314	The ground cover is sparse or mid dense with a high proportion being rock scree. Grass and grass like species include, *Carex appressa* (Tall Sedge), *Carex inversa* (Knob Sedge), *Dichelachne micrantha* (Shorthair Plumegrass), *Echinopogon caespitosus* var. *caespitosus* (Tufted Hedgehog Grass), *Lomandra longifolia* (Spiny-headed Mat-rush) and *Poa sieberiana* var. *sieberiana* (Snowgrass). Forb species include *Bulbine glauca* (Rock Lily), *Microseris lanceolata* (Yam Daisy), *Plantago varia*, *Scutellaria humilis* (Dwarf Skullcap), *Senecio bathurstianus* and *Senecio quadridentatus* (Cotton Fireweed). Fern species include *Cheilanthes austrotenuifolia* (Rock Fern), *Pellaea calidirupium* and *Pteridium esculentum* (Bracken). Climbers include *Desmodium varians* (Slender Tick-trefoil).
Condition and presence of weeds	PCT 314 occurs in the project footprint as four condition types: • Very high • Moderate • Low • Very low Exotic species are present in PCT 314 in Very low, Low and Moderate condition zones. Exotic species with a high cover include exotic forbs *Hypericum perforatum* (St. John's Wort) and *Hypochaeris radicata* (Catsear), the grass *Holcus lanatus* (Yorkshire Fog) and the climber *Rubus anglocandicans* (Blackberry).
Justification of evidence used to identify the PCT	As mentioned above, PCT 314 is known to occur on scree over red earth soils derived from basalt on slopes. The PCT in the project footprint occurs predominantly in the Adelong Granite Ranges Mitchell Landscape and to a smaller extent in the Minjary Hills and Ranges Landscape. Additionally, diagnostic canopy species of PCT 314 include *Eucalyptus macrorhyncha* and *Eucalyptus bridgesiana*, both of which were recorded in this PCT.

PCT 314 - Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	
	The midstorey was sparse to mid dense, which is characteristic of PCT 314. Diagnostic species recorded include *Dodonaea viscosa*, *Bursaria spinosa* subsp. *lasiophylla*, *Cassinia longifolia* and *Rubus parvifolius*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 314, including *Dichelachne micrantha, Echinopogon caespitosus* var. *caespitosus, Lomandra longifolia, Poa sieberiana* var. *sieberiana, Senecio quadridentatus, Pellaea calidirupium* and *Pteridium esculentum.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 314 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 44. Very low condition woodland (photo taken at plot MA032579)**

PCT 314 - Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	
	 Photo 45. Moderate condition woodland (photo taken at plot MA021-01)
Number of plots sampled	Seven plots were sampled within the Inland Slopes bioregion, including: Very low condition: • MA032A81 • MA032579 Moderate condition: • MA021-01 • MA021BE8 • MA0216BB • MA059030D1 • MA059032E2

PCT 316 - Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	
Vegetation formation	Grassy Woodlands
Vegetation class	Western Slopes Grassy Woodlands
Conservation status	PCT 316 is not associated with a TEC.
% remaining in NSW	37
Extent	PCT 316 is known to occur on steep slopes and crests in hilly terrain in the Minjary Ranges and surrounding region north of Tumut on the South Western Slopes.
Diagnostic canopy species for PCT 316	The canopy is dominated by *Eucalyptus nortonii* (Large-flowered Bundy), *Eucalyptus polyanthemos* (Red Box), *Eucalyptus macrorhyncha* (Red Stringybark), *Callitris endlicheri* (Black Cypress Pine), *Eucalyptus blakelyi* (Blakely's Red Gum), *Brachychiton populneus subsp. populneus* and *Eucalyptus melliodora* (Yellow Box).
Diagnostic midstorey species for PCT 316	The midstorey is very sparse, but many include species such as *Acacia buxifolia subsp. buxifolia* (Box-leaved Wattle), *Brachyloma daphnoides subsp. daphnoides, Acacia verniciflua* (Varnish Wattle), *Acacia implexa* (Hickory Wattle), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Acacia gunnii* (Ploughshare Wattle), *Dodonaea viscosa subsp. cuneata* (Wedge-leaf Hop-bush) and *Dillwynia sericea* (Egg and Bacon Peas).
Diagnostic groundcover species for PCT 316	The ground cover is dense with a high proportion of grasses and forbs, and the potential to become weedy. Grass and grass-like species include *Poa sieberiana* var. *sieberiana* (Snowgrass), *Austrodanthonia racemosa var. racemose* (Wallaby Grass), *Dichelachne sieberiana*, *Elymus scaber var. scaber* (Wheatgrass), *Bothriochloa macra* (Red Grass), *Carex breviculmis*, *Lomandra filiformis subsp. filiformis*, *Lomandra filiformis subsp. coriacea* (Wattle Matt-rush) and *Luzula densiflora* (Woodrush). Forb species include *Stypandra glauca* (Nodding Blue Lily), *Poranthera microphylla* (Small Poranthera), *Bulbine bulbosa* (Bulbine Lily), *Euchiton gymnocephalus*, *Daucus glochidiatus* (Native Carrot), *Cynoglossum austral*, *Wahlenbergia multicaulis* (Tadgell's Bluebell), *Oxalis perennans*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Microtis unifolia* (Common Onion Orchid), *Stellaria pungens* (Prickly Starwort), *Hypericum gramineum* (Small St John's Wort), *Geranium retrorsum* (Cranesbill Geranium), *Gonocarpus tetragynus* (Poverty Raspwort), *Cymbonotus preissianus* (Austral Bear's Ear), *Wahlenbergia stricta subsp. stricta* (Tall Bluebell), *Microseris lanceolata* (Yam Daisy), *Acaena echinate* (Sheep's Burr), *Scutellaria humilis* (Dwarf Skullcap) and *Dianella revoluta var. revoluta*. Fern species include *Cheilanthes austrotenuifolia* (Rock Fern). Climbers include *Glycine clandestina* (Twining glycine).
Condition and presence of weeds	PCT 316 occurs in the project footprint as three condition types: • Low • Moderate • Very high Exotic species are present in PCT 316 in Low and Moderate condition zones. Exotic species with a high cover include exotic forbs *Hypericum perforatum* (St. John's Wort) and *Hypochaeris radicata* (Catsear), and the grass *Vulpia Myuros* (Rat's Tail Fescue).

PCT 316 - Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	
Justification of evidence used to identify the PCT	As mentioned above, PCT 316 is known to occur on steep slopes and crests in hilly terrain in the Minjary Ranges and surrounding region north of Tumut. The PCT in the project footprint occurs predominantly in the Adelong Granite Ranges Mitchell Landscape and to a smaller extent in the Minjary Hills and Ranges Landscape. In these areas PCT 316 occurs on steep slopes and crests which aligns with the landscape description of PCT 316. The diagnostic canopy species of PCT 316, *Eucalyptus macrorhyncha* and *Eucalyptus bridgesiana*, were dominant throughout PCT 316 in the project footprint. *Eucalyptus blakelyi* and *Eucalyptus polyanthemos* were also recorded which are also both diagnostic species. The midstorey was sparse, which is characteristic of PCT 316. Recorded diagnostic species include *Brachyloma daphnoides subsp. daphnoides* and *Hibbertia obtusifolia.* Plots sampled confirm the presence of groundcover species diagnostic of PCT 316, including *Bothriochloa macra, Lomandra filiformis, Luzula densiflora Poa sieberiana var. sieberiana, Bulbine bulbosa, Cymbonotus preissianus, Cynoglossum australe, Gonocarpus tetragynus, Hydrocotyle laxiflora, Hypericum gramineum, Poranthera microphylla, Stellaria pungens* and *Stypandra glauca.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 316 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 46. Low condition woodland (photo taken at plot MA0518FD)**

Photo 47. Moderate condition woodland (photo taken at plot MA05134E)

PCT 316 - Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	
	 Photo 48. Very high condition woodland (photo taken at plot MA0518AA)
Number of plots sampled	Seven plots were sampled within the Inland Slopes bioregion, including: Low condition: • MA0515FE • MA0518FD Moderate condition: • MA05134E Very high condition: • MA051576 • MA0518AA • MA0510DF • MA051544

PCT 319 - Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	
Vegetation formation	Semi-arid Woodlands (Shrubby sub-formation)
Vegetation class	Inland Rocky Hill Woodlands
Conservation status	PCT 319 is not associated with a TEC.
% remaining in NSW	40
Extent	PCT 319 is known to occur on shallow loamy grey clay soils derived from granite or sedimentary rocks on slopes and low ridges in low hill or hill landscape patterns in the southern part of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 319	The canopy is dominated by *Eucalyptus dealbata* (Tumbledown Red Gum), although *Callitris glaucophylla* (White Cypress Pine) and *Eucalyptus macrorhyncha* (Red Stringybark) may be common on slopes. Other species that may be present in the canopy include *Callitris endlicheri* (Black Cypress Pine), *Eucalyptus albens* (White Box) and *Acacia doratoxylon* (Currawang).
Diagnostic midstorey species for PCT 319	The midstorey is typically sparse with species such as *Acacia buxifoli*a subsp. *buxifolia* (Box-leaved Wattle), *Melichrus urceolatus* (Urn Heath), *Brachyloma daphnoides* subsp. *daphnoides* (Daphne Heath), *Acacia dealbata* (Silver Wattle), *Daviesia leptophylla*, *Acacia pycnantha* (Golden Wattle) and *Dillwynia sericea* (Egg and Bacon Pea).
Diagnostic groundcover species for PCT 319	The ground cover is sparse and may contain some stony soils or rocky outcrops. Small shrubs include *Acrotriche serrulata* (Honeypots) and *Pimelea curviflora* var. *curviflora*. Grass and grass like species include *Aristida jerichoensis* var. *subspinulifera* (Jericho Wiregrass), *Aristida ramosa* (Purple Wiregrass), *Austrostipa scabra* subsp. *falcata* (Rough Speargrass), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Poa sieberiana* (Snowgrass), *Rytidosperma erianthum* (Wallaby Grass), *Rytidosperma pallidum* (Redanther Wallaby Grass), *Rytidosperma racemosum* var. *racemosum* (Wallaby Grass) and *Themeda triandra* (Kangaroo Grass). Forbs include, *Asperula conferta* (Common Woodruff), *Chrysocephalum apiculatum* (Common Everlasting), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Gonocarpus elatus* (A Raspwort), *Gonocarpus tetragynus* (Poverty Raspwort), *Goodenia hederacea* subsp. *hederacea*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Microseris lanceolata* (Yam Daisy), *Stypandra glauca* (Nodding Blue Lily) and *Xerochrysum viscosum* (Sticky Everlasting). The fern *Cheilanthes sieberi* subsp. *sieberi* (Rock Fern) and *Hardenbergia violacea* (False Sarsaparilla) are often present in this PCT.
Condition and presence of weeds	PCT 319 occurs in the project footprint as two condition types: • Low • High Exotic species are present throughout PCT 319. Most of the exotic species recorded comprise wind dispersed species from the Poaceae (grass) family including *Paspalum dilatatum* (Paspalum) and *Festuca pratensis* (Meadow Fescue).

PCT 319 - Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	
Justification of evidence used to identify the PCT	As mentioned above, PCT 319 is known to occur on shallow loamy grey clay soils derived from granite or sedimentary rocks on slopes and low ridges in low hill or hill landscape patterns. The PCT in the project footprint occurs entirely in the Coffin Rock Granite Hills Mitchell Landscape which is characterised by rolling to steep rocky hills on granite. PCT 319 within the project footprint therefore aligns with the landscape description for the PCT. Additionally, diagnostic canopy species of PCT 319 include *Callitris glaucophylla*, which was recorded in the plots sampled. It is assumed that no other canopy species (diagnostic or otherwise) were recorded in the plots sampled due to past and present land use practices. However, *Eucalyptus dealbata* was recorded in several rapid data points collected throughout the PCT. The midstorey was absent in the plots sampled in this PCT, most likely due to past and present land use practices. Plots sampled confirm the presence of groundcover species diagnostic of PCT 319, including *Aristida ramosa, Austrostipa scabra, Microlaena stipoides* var. *stipoides, Hypericum gramineum* and *Cheilanthes sieberi* subsp. *sieberi.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 319 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 49. Low condition woodland (photo taken at plot WM016B40)**

PCT 319 - Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	
	 Photo 50. High condition woodland (photo taken at plot WM0139C1)
Number of plots sampled	Four plots were sampled within the Inland Slopes bioregion, including: Low condition: • WM016B40 • WM0138DE High condition: • WM0139C1 • WM013669

PCT 322 - Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Western Slopes Dry Sclerophyll Forests
Conservation status	PCT 322 is not associated with a TEC.
% remaining in NSW	67
Extent	PCT 322 is known to occur on yellow to brown loam soil derived from chert, sandstone or granite on hillcrests and hillslopes in hill landform patterns in the central western slopes region of NSW being in the central and northern parts of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 322	The canopy is dominated by *Eucalyptus rossii* (Inland Scribbly Gum), *Eucalyptus macrorhyncha* (Red Stringybark) and *Callitris endlicheri* (Black Cypress Pine). *Eucalyptus goniocalyx* (Long-leaved Box) *Eucalyptus sideroxylon* (Mugga Ironbark) and *Acacia doratoxylon* (Currawang) may also be present.
Diagnostic midstorey species for PCT 322	The midstorey is typically mid-dense with species such as *Grevillea floribunda* subsp. *floribunda* (Seven Dwarfs Grevillea), *Dillwynia sericea* (Egg and Bacon Peas), *Gompholobium huegelii* (Pale Wedge Pea), *Calytrix tetragona* (Common Fringe-myrtle), *Dillwynia phylicoides* (Parrot-pea), *Persoonia rigida, Brachyloma daphnoides* subsp. *daphnoides* (Daphne Heath), *Styphelia triflora* (Pink Five-Corners), *Leucopogon microphyllus* var. *microphyllus*, *Acacia buxifolia* subsp. *buxifolia* (Box-leaved Wattle), *Grevillea triternata*, *Hovea linearis, Leucopogon virgatus, Hibbertia obtusifolia* (Hoary Guinea Flower), *Melichrus urceolatus* (Urn Heath), *Allocasuarina diminuta* subsp. *diminuta, Xanthorrhoea glauca* subsp. *angustifolia, Hibbertia riparia, Cassinia aculeata* (Dolly Bush), *Pultenaea microphylla* (A Bush Pea), *Platysace ericoides, Lissanthe strigosa* subsp. *strigosa* (Peach Heath), *Leucopogon attenuatus* (A Beard-heath), *Hibbertia serpyllifolia* (Hairy Guinea Flower), *Crowea exalata*, *Grevillea ramosissima* subsp. *ramosissima* (Fan Grevillea), *Phyllanthus hirtellus* (Thyme Spurge), *Monotoca scoparia*, *Grevillea polybractea* (Crimson Grevillea), *Beyeria viscosa* (Sticky Wallaby Bush), *Daviesia umbellulata* and *Hibbertia calycina* (Lesser Guinea Flower).
Diagnostic groundcover species for PCT 322	The ground cover is sparse and includes small shrubs such as *Cryptandra ericoides* (Heathy Cryptandra) and *Pultenaea procumbens*. Grass and grass-like species include *Aristida jerichoensis* var. *subspinulifera* (Jericho Wiregrass), *Austrostipa scabra* subsp. *falcata* (Rough Speargrass), *Dichelachne micrantha* (Shorthair Plumegrass), *Lepidosperma laterale* (Variable Sword-sedge), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Poa sieberiana* var. *sieberiana* (Snowgrass) and *Rytidosperma pallidum* (Redanther Wallaby Grass). Forbs include *Chrysocephalum semipapposum* (Clustered Everlasting), *Coronidium scorpioides* (Button Everlasting), *Dampiera purpurea*, *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Gonocarpus tetragynus* (Poverty Raspwort), *Goodenia hederacea* subsp. *hederacea*, *Hypericum gramineum* (Small St John's Wort), *Laxmannia gracilis* (Slender Wire Lily), *Patersonia sericea* (Silky Purple-Flag), *Pomax umbellata* (Pomax), *Scutellaria humilis* (Dwarf Skullcap), *Stypandra glauca* (Nodding Blue Lily), *Thelymitra pauciflora* (Slender Sun Orchid), *Wahlenbergia gracilis* (Sprawling Bluebell) and *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell).The fern *Cheilanthes sieberi* subsp. *sieberi* (Rock Fern) and the climber *Hardenbergia violacea* (False Sarsaparilla) are also often present in this PCT.

PCT 322 - Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	
Condition and presence of weeds	PCT 322 occurs in the project footprint as three condition types: • Very low • Moderate • High Exotic species are present in low numbers throughout PCT 322, with the most commonly recorded exotic species being *Briza maxima* (Quaking Grass) and *Rumex acetosella* (Sheep's Sorrel).
Justification of evidence used to identify the PCT	As mentioned above, PCT 322 is known to occur on yellow to brown loam soil derived from chert, sandstone or granite on hillcrests and hillslopes in hill landform patterns. The PCT in the project footprint occurs entirely in the Boorowa Volcanics Mitchell Landscape which is characterised undulating low hills and rocky rises on sandstone. The landscape position of PCT 322 within the project footprint therefore aligns with the landscape description of PCT 322. Diagnostic canopy species of PCT 322 include *Eucalyptus goniocalyx* and *Eucalyptus rossii*, both of which were recorded in the plot sampled. The midstorey was moderately dense in the plots sampled which is also characteristic of PCT 322. Additionally several diagnostic species were recorded including *Brachyloma daphnoides, Cassinia arcuata, Hibbertia obtusifolia, Lissanthe strigosa, Melichrus urceolatus* and *Dillwynia sericea*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 322, including *Austrostipa scabra, Lepidosperma laterale, Lomandra filiformis, Poa sieberiana, Gonocarpus tetragynus, Goodenia hederacea* subsp. *hederacea, Hypericum gramineum* and *Wahlenbergia stricta* subsp. *stricta.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 322 within the project footprint is shown in Figure 6-1.

PCT 322 - Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes

Photos

Photo 51. Very low condition woodland (photo taken at plot BY142B2A)

PCT 322 - Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes

Photo 52. Moderate condition woodland (photo taken at plot BY14305C)

PCT 322 - Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes

Photo 53. High condition woodland (photo taken at plot BY1430A1)

Number of plots sampled

Three plots were sampled within the Murrumbateman bioregion, including:

Very low condition:

- BY142B2A

Moderate condition:

- BY14305C

High condition:

- BY1430A1

PCT 335 - Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
Vegetation formation	Freshwater Wetlands
Vegetation class	Inland Floodplain Swamps
Conservation status	PCT 335 is not associated with a TEC.
% remaining in NSW	17
Extent	PCT 335 typically occurs on silty loam alluvial soils derived from sedimentary and volcanic substrates along watercourses where sediment has accumulated to form valley flats or where springs may feed valley soaks in east of the South Western Slopes and adjoining parts of the South Eastern Highlands.
Diagnostic canopy species for PCT 335	A canopy is often absent but *Eucalyptus blakelyi* (Blakely's Red Gum) and *Eucalyptus melliodora* (Yellow Box) may border or overhang swamps.
Diagnostic midstorey species for PCT 335	The midstorey is sparse but where present includes species such as *Phragmites australis* (Common Reed), *Typha domingensis* (Bullrush), *Acacia dealbata* (Silver Wattle) and *Harmogia densifolia*.
Diagnostic groundcover species for PCT 335	The ground cover is dense and typically dominated by *Poa labillardierei var. labillardierei* (Tussock Snow Grass), sedges including *Carex appressa* (Tall Sedge), and rushes such as *Juncus homalocaulis* and *Juncus fockei*. Other species include *Bothriochloa macra* (Red Grass), *Rumex brownie* (Swamp Dock), *Juncus holoschoenus, Acaena ovina* (Acaena), *Cynodon dactylon* (Common Couch), *Microlaena stipoides var. stipoides* (Weeping Grass), *Aristida ramosa var. ramose* (Purple Wiregrass), *Geranium neglectum, Geranium retrorsum* (Cranesbill Geranium), *Dichopogon fimbriatus* (Nodding Chocolate Lily), *Caesia parviflora var. parviflora, Xerochrysum viscosum* (Sticky Everlasting), *Arthropodium milleflorum* (Pale Vanilla-lily) and *Microtis unifolia* (Common Onion Orchid).
Condition and presence of weeds	PCT 335 occurs in the project footprint in High condition. Exotic species were recorded in low abundance throughout PCT 335. Species occasionally present included *Hypochaeris radicata* (Catsear), *Gamochaeta americana* (Cudweed) and *Cirsium vulgare* (Spear Thistle).
Justification of evidence used to identify the PCT	As mentioned above, PCT 335 typically occurs along watercourses where sediment has accumulated to form valley flats or where springs may feed valley soaks. Within the project footprint, PCT 335 is situated along a small creek and the adjoining valley flat and is therefore consistent with the landscape position of PCT 335. A canopy was absent from PCT 335 within the project footprint which is typical of the PCT. The midstorey was also very sparse, with very low abundance of *Hibbertia obtusifolia* and *Melichrus urceolatus,* which are not diagnostic species of PCT 335. Plots sampled confirm the presence of groundcover species diagnostic of PCT 335 including *Aristida ramosa, Bothriochloa macra, Juncus spp., Microlaeana stipoides var. stipoides* and *Poa labillardierei var. labillardierei.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 335 within the project footprint is shown in Figure 6-1.

PCT 335 - Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
Photos	N/A
Number of plots sampled	Two plots were sampled within the Crookwell bioregion, including: High condition: • BY03412A • BY03426A

PCT 343 - Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Western Slopes Dry Sclerophyll Forests
Conservation status	PCT 343 is not associated with a TEC.
% remaining in NSW	22
Extent	PCT 343 typically occurs on clay soils derived from metamorphic rocks in the Tarcutta region and in the Brothers Mountain region between Nangus and Gundagai in the southern part of the NSW South-western Slopes Bioregion.
Diagnostic canopy species for PCT 343	The canopy is dominated by *Eucalyptus sideroxylon* (Mugga Ironbark), *Eucalyptus polyanthemos* (Red Box) and *Eucalyptus macrorhyncha* (Red Stringybark) with *Eucalyptus microcarpa* (Western Grey Box) also present. Other canopy species may include *Eucalyptus albens* (White Box) and *Eucalyptus blakelyi* (Blakely's Red Gum).
Diagnostic midstorey species for PCT 343	The midstorey is very sparse but where present includes species such as *Daviesia leptophylla*, *Acacia pycnantha* (Golden Wattle), *Cassinia laevis* (Cough Bush), *Dillwynia sericea* (Egg and Bacon Peas), *Melichrus urceolatus* (Urn Heath), *Acacia genistifolia* (Early Wattle), *Cassinia sifton* (Sifton Bush), *Einadia hastata* (Berry Saltbush), *Acacia paradoxa* (Kangaroo Thorn), *Leucopogon rufus*, *Hibbertia obtusifolia* (Hoary Guinea Flower), *Pultenaea foliolosa* (A Bush Pea), *Pultenaea altissima*, *Pultenaea procumbens*, *Brachyloma daphnoides* subsp. *daphnoides*, *Amyema pendula* subsp. *pendula* and *Grevillea lanigera* (Woolly Grevillea).
Diagnostic groundcover species for PCT 343	The ground cover is mid-dense to sparse and it typically dominated by tussock grasses such as *Rytidosperma erianthum* (Wallaby Grass), *Poa sieberiana* (Snowgrass), *Rytidosperma fulvum* (Wallaby Grass), *Austrostipa scabra* subsp. *falcata* (Rough Speargrass), *Austrostipa mollis* (Soft Speargrass) and *Dichelachne crinita* (Longhair Plumegrass). Other species include, *Dianella longifolia* var. *longifolia* (A Blue Flax Lily), *Stypandra glauca* (Nodding Blue Lily), *Opercularia hispida* (Hairy Stinkweed), *Juncus subsecundus* (Finger Rush), *Gonocarpus tetragynus* (Poverty Raspwort), *Geranium solanderi* var. *solanderi*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Xerochrysum viscosum* (Sticky Everlasting), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell), *Thysanotus patersonii* (Twining Fringe-Lily), *Goodenia hederacea* subsp. *hederacea*, *Dichopogon strictus* (Chocolate Lily), *Daucus glochidiatus* (Native Carrot), *Chrysocephalum apiculatum* (Common Everlasting), *Cheiranthera linearis* (Finger Flower), *Carex appressa* (Tall Sedge), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Hypericum gramineum* (Small St John's Wort), *Luzula flaccida* (Woodrush), *Senecio prenanthoides*, *Wurmbea dioica* subsp. dioica (Early Nancy), *Thelymitra pauciflora* (Slender Sun Orchid), *Microtis unifolia* (Common Onion Orchid), *Pterostylis* sp. B, and *Hardenbergia violacea* (False Sarsaparilla).
Condition and presence of weeds	PCT 343 occurs in the project footprint as two condition types: • Very low • Moderate

PCT 343 - Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	
	Exotic species are present throughout PCT 343, typically with higher covers recorded in the Very low condition zone. Commonly recorded weeds comprise forb species such as *Medicago sativa* (Lucerne) and *Trifolium repens* (White Clover), and grass species such as *Lolium multiflorum* (Italian Ryegrass) and *Vulpia bromoides* (Squirrel Tail Fesque).
Justification of evidence used to identify the PCT	As mentioned above, PCT 343 typically occurs on clay soils derived from metamorphic rocks in the Tarcutta region and in the Brothers Mountain region between Nangus and Gundagai. The PCT in the project footprint occurs in the Adrah Hills and Ranges Mitchell Landscape which is characterised by rolling hills, low ranges and peaks on predominantly metamorphic lithology (slate, phyllite and schist) but also sedimentary and igneous lithology. This is fairly consistent with the landscape description of PCT 343. Diagnostic canopy species of PCT 343 include *Eucalyptus sideroxylon* and *Eucalyptus macrorhyncha* both of which were recorded as the dominant species in the plots sampled. In the wooded areas the midstorey is predominantly very sparse which is a diagnostic of PCT 343. Plots sampled confirm the presence of groundcover species diagnostic of PCT 343, including *Poa sieberiana, Austrostipa scabra, Juncus subsecundus, Geranium solanderi* var. *solanderi, Hydrocotyle laxiflora* and *Hypericum gramineum.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 343 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 54. Very low condition grassland (photo taken at plot WM034766)**

PCT 343 - Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion

Photo 55. Moderate condition woodland (photo taken at plot WM018002)

Number of plots sampled

Twelve plots were sampled within the Inland Slopes bioregion, including:

Very low condition:

- WM034766
- WM034767
- WM0334B9

Moderate condition:

- WMO45E81
- WM018002
- WM018003
- WM0187E3
- WM033A29
- WM033AC8
- WM035A55
- WM044C69
- WM044D65

PCT 349 - Inland Scribbly Gum - Red Stringybark open forest on hills composed of siliceous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 349 is not associated with a TEC.
% remaining in NSW	50
Extent	PCT 349 is found in the upper Lachlan catchment region from Boorowa to Yass to north of Crookwell in the central part of the upper slopes sub-region but mainly in the western side of the South Eastern Highlands Bioregion. It is often on exposed aspects (from east to north to west). The PCT occurs on shallow grey to brown podzolic soils mainly derived from conglomerate and sandstone.
Diagnostic canopy species for PCT 349	The canopy is dominated by *Eucalyptus macrorhyncha* (Red Stringybark) and *Eucalyptus rossii* (Inland Scribbly Gum). *Eucalyptus goniocalyx* (Bundy) may also occur. *Eucalyptus polyanthemos* subsp. *polyanthemos* (Red Box) and *Eucalyptus dives* (Broad-leaved Peppermint) are less common in this PCT.
Diagnostic midstorey species for PCT 349	The midstorey is sparse or absent depending on fire and grazing history. Diagnostic species include *Daviesia leptophylla*, *Acacia gunnii* (Ploughshare Wattle), *Monotoca scoparia, Persoonia rigida, Gompholobium huegelii* (Pale Wedge Pea), *Brachyloma daphnoides* subsp. *daphnoides*, *Hibbertia obtusifolia* (Hoary Guinea Flower), *Hibbertia calycina* (Lesser Guinea Flower), *Phyllanthus hirtellus* (Thyme Spurge), *Acacia buxifolia* subsp. *buxifolia* (Box-leaved Wattle), *Pimelea linifolia* subsp. *linifolia*, *Dillwynia phylicoides* (Parrot-pea), *Leptospermum multicaule* (Silver Tea-tree), *Grevillea lanigera* (Woolly Grevillea), *Persoonia chamaepeuce, Tetratheca bauerifolia* and *Platylobium formosum* subsp. *formosum*.
Diagnostic groundcover species for PCT 349	The groundcover is dense in wet seasons and sparse in dry seasons. Diagnostic species include *Rytidosperma pallidum* (Redanther Wallaby Grass), *Poa sieberiana* var. *sieberiana* (Snowgrass), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Lomandra filiformis* subsp. *filiformis*, *Goodenia hederacea* subsp. *hederacea*, *Gonocarpus tetragynus* (Poverty Raspwort), *Poranthera microphylla* (Small Poranthera), *Hovea linearis*, *Hypericum gramineum* (Small St John's Wort), *Hardenbergia violacea* (False Sarsaparilla), *Stypandra glauca* (Nodding Blue Lily), *Stylidium graminifolium* (Grass Triggerplant), *Drosera auriculata*, *Thelymitra pauciflora* (Slender Sun Orchid), *Patersonia sericea* (Silky Purple-Flag), *Pomax umbellata* (Pomax), *Senecio prenanthoides*, *Hydrocotyle laxiflora* (Stinking Pennywort), *Luzula flaccida* (Woodrush), *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell), *Lomandra longifolia* (Spiny-headed Mat-rush), *Veronica plebeia* (Trailing Speedwell), *Dichelachne micrantha* (Shorthair Plumegrass), *Rhytidosporum procumbens* and *Dampiera purpurea*.
Condition and presence of weeds	PCT 349 occurs in the project footprint as three condition types: • Low • Moderate • High

PCT 349 - Inland Scribbly Gum - Red Stringybark open forest on hills composed of siliceous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	
	Exotic species in a low cover are present throughout PCT 349, with slightly higher covers recorded within the Moderate condition zone. This variation is predominantly attributed to a high cover of *Rumex acetosella* (Sheep's Sorrel) and *Hypochaeris radicata* (Catsear).
Justification of evidence used to identify the PCT	As mentioned above, PCT 349 is often on exposed aspects (from east to north to west) and occurs on shallow grey to brown podzolic soils mainly derived from conglomerate and sandstone. The PCT in the project footprint mainly occurs in the Dalton Hills Mitchell Landscape which can occur on sandstone lithologies. This is generally consistent with the landscape description of PCT 349. Additionally, diagnostic canopy species of PCT 349 include *Eucalyptus macrorhyncha, Eucalyptus rossii* and *Eucalyptus dives,* all of which were observed throughout this PCT. In the wooded areas the midstorey is generally sparse which is characteristic of PCT 349. Recorded diagnostic species of PCT 349 included *Acacia gunnii, Monotoca scoparia, Persoonia rigida, Gompholobium huegelii, Brachyloma daphnoides* subsp. *daphnoides, Hibbertia obtusifolia, Pimelea linifolia* subsp. *linifolia, Leptospermum multicaule* and *Grevillea lanigera*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 349, including *Rytidosperma pallidum, Poa sieberiana* var. *sieberiana, Dianella revoluta* var. *revoluta, Lomandra filiformis, Goodenia hederacea* subsp. *hederacea, Gonocarpus tetragynus, Poranthera microphylla, Hypericum gramineum, Hardenbergia violacea, Stylidium graminifolium, Thelymitra* sp., *Hydrocotyle laxiflora, Luzula* sp., *Dichelachne micrantha* and *Rhytidosporum procumbens*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 349 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 56. Low condition woodland (photo taken at plot BY1301923A)**

PCT 349 - Inland Scribbly Gum - Red Stringybark open forest on hills composed of siliceous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion

Photo 57. Moderate condition woodland (photo taken at plot BY13017BFB)

Photo 58. High condition woodland (photo taken at plot BY13017EE2)

Number of plots sampled	Twelve plots were sampled within the Murrumbateman bioregion, including: Low condition:

PCT 349 - Inland Scribbly Gum - Red Stringybark open forest on hills composed of siliceous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	
	• BY13019DA7 • BY1301923A Moderate condition: • BY1301916A • BY1301948C • BY1301709A • BY13017C4F • BY13018553 • BY13017BFB • BY13017B1B High condition: • BY1301723F • BY13018AB5 • BY13017EE2

PCT 351 - Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 351 is associated with the Mt Canobolas Xanthoparmelia Lichen Community TEC listed as Endangered under the BC Act. However, given the TEC has a highly restricted distribution (Mt Canobolas in central-western New South Wales), PCT 351 in the project footprint is not considered to align to the TEC.
% remaining in NSW	40
Extent	PCT 351 mainly occurs in the South Eastern Highlands Bioregion between Yass and Orange, typically on shallow, yellow to red podzolic clay to loam soils derived from sedimentary, metamorphic and igneous substrates on footslopes and hillslopes.
Diagnostic canopy species for PCT 351	The canopy is dominated by *Eucalyptus mannifera* subsp. *mannifera* (Brittle Gum) often with *Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus dives* (Broad-leaved Peppermint), *Eucalyptus goniocalyx* (Long-leaved Box), and occasionally with *Eucalyptus cinerea* (Argyle Apple), *Eucalyptus rossii* (Inland Scribbly Gum) and *Eucalyptus polyanthemos* subsp. *polyanthemos* (Red Box).
Diagnostic midstorey species for PCT 351	The midstorey is sparse and include species such as *Daviesia leptophylla*, *Dillwynia sericea* (Egg and Bacon Peas), *Acacia gunnii* (Ploughshare Wattle), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Monotoca scoparia*, *Dillwynia phylicoides* (Parrot-pea), *Gompholobium huegelii* (Pale Wedge Pea), *Pultenaea procumbens*, *Pultenaea spinosa* (A Bush Pea), *Leptospermum myrtifolium, Pultenaea subspicata* (Low Bush-pea), *Acacia dealbata* (Silver Wattle), *Acacia genistifolia* (Early Wattle), *Cassinia aculeata* (Dolly Bush), *Cassinia sifton* (Sifton Bush), *Leucopogon virgatus*, *Melichrus urceolatus* (Urn Heath), *Hibbertia riparia, Grevillea lanigera* (Woolly Grevillea), *Persoonia rigida*, *Platylobium formosum* subsp. *formosum*, *Acacia falciformis* (Broad-leaved Hickory) and *Brachyloma daphnoides* (Daphne Heath).
Diagnostic groundcover species for PCT 351	The groundcover varies from sparse to mid-dense and includes species such as *Poa sieberiana* var. *sieberiana* (Snowgrass), *Rytidosperma pallidum* (Redanther Wallaby Grass), *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Gonocarpus tetragynus* (Poverty Raspwort), *Lomandra longifolia* (Spiny-headed Mat-rush), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Hypericum gramineum* (Small St John's Wort), *Schoenus apogon* (Fluke Bogrush), *Lobelia pedunculata* (Matted Pratia), *Carex appressa* (Tall Sedge), *Viola betonicifolia* (Native Violet), *Stylidium graminifolium* (Grass Triggerplant), *Goodenia hederacea* subsp. *hederacea* (Ivy Goodenia), *Senecio quadridentatus* (Cotton Fireweed), *Hardenbergia violacea* (False Sarsaparilla), *Pteridium esculentum* (Bracken), *Echinopogon caespitosus* var. *caespitosus* (Tufted Hedgehog Grass), *Rytidosperma tenuius* (A Wallaby Grass), *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Themeda triandra* (Kangaroo Grass), *Aristida ramosa* (Purple Wiregrass), *Juncus subsecundus* (Finger Rush), *Hardenbergia violacea* (False Sarsaparilla) and *Dampiera purpurea*.
Condition and presence of weeds	PCT 351 occurs in the project footprint as three condition types: • Very low • Low • Moderate

PCT 351 - Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	
	Exotic species are present in throughout PCT 351, typically with higher covers recorded in the Very low and Low condition zones. Commonly recorded weeds included the grass *Hordeum leporinum* (Barley Grass) and the forb *Medicago polymorpha* (Burr Medic).
Justification of evidence used to identify the PCT	As mentioned above, PCT 351 is found between Orange and Yass and is associated with clay to loam soils derived from sedimentary, metamorphic and igneous substrates. The PCT in the project footprint occurs on the Marilba Range, Burrinjuck Ridges and Dalton Hills Mitchell Landscapes, all of which are characterised by loam soils or clay subsoils. This therefore aligns with the landscape description of PCT 351. Additionally, diagnostic canopy species of PCT 351 include *Eucalyptus mannifera* subsp. *mannifera* often with *Eucalyptus macrorhyncha* and *Eucalyptus goniocalyx,* and occasionally *Eucalyptus rossii* is present, all of which were observed throughout this PCT. The midstorey is sparse in the wooded areas, which is diagnostic of PCT 351. Plots sampled confirm the presence of groundcover species diagnostic of PCT 351, including *Poa sieberiana* var. *sieberiana, Rytidosperma pallidum, Gonocarpus tetragynus, Hypericum gramineum, Schoenus apogon, Echinopogon* sp., *Microlaena stipoides* var. *stipoides* and *Aristida ramose*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 351 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 59. Very low condition native grassland (photo taken at plot YG01909F)**

PCT 351 - Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

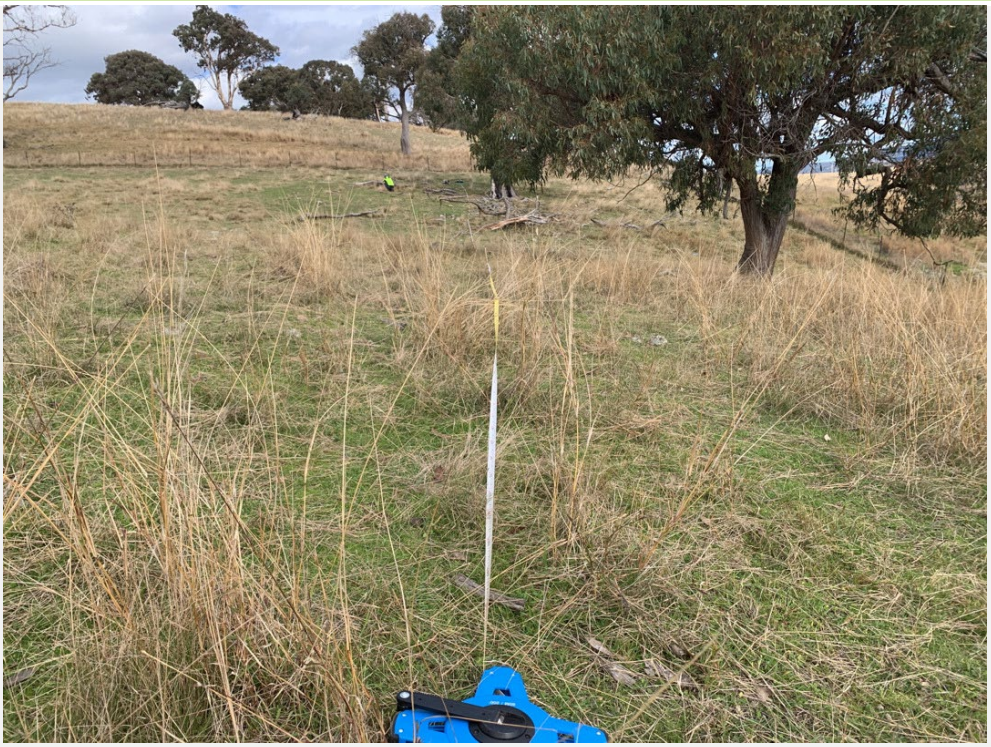


Photo 60. Low condition woodland (photo taken at plot YG0172F3)

Photo 61. Moderate condition woodland (photo taken at plot YG01601)

Number of plots sampled	Seven plots were sampled within the Murrumbateman bioregion, including: Very low condition:

PCT 351 - Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	
	• YG01909F Low condition: • YG0172F3 • YG0172F4 Moderate condition: • YG01933B • YG01601 • YG016E0A • YG016611

PCT 352 - Red Stringybark - Blakelys Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 352 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a Critically Endangered Ecological Community (CEEC) under the BC and EPBC Acts.
% remaining in NSW	14
Extent	PCT 352 occurs in the upper slopes of the NSW South-western Slopes and the western side of the South eastern Highlands Bioregions. The PCT occurs on shallow, red clay soils derived mainly from metamorphic substrates on hillslopes.
Diagnostic canopy species for PCT 352	The canopy is dominated by *Eucalyptus macrorhyncha* (Red Stringybark) and *Eucalyptus blakelyi* (Blakely's Red Gum), often with *Eucalyptus melliodora* (Yellow Box) or *Eucalyptus goniocalyx* (Long-leaved Box).
Diagnostic midstorey species for PCT 352	The midstorey is sparse or absent, but where present includes species such as *Acacia mearnsii* (Black Wattle), *Daviesia leptophylla*, *Brachyloma daphnoides* subsp. *daphnoides* (Daphne Heath), *Acacia implexa* (Hickory Wattle), *Acacia dealbata* (Silver Wattle), *Exocarpos cupressiformis* (Cherry Ballart), *Dillwynia sericea* (Egg and Bacon Peas) and *Pultenaea procumbens*.
Diagnostic groundcover species for PCT 352	The groundcover is often sparse and includes species such as *Bothriochloa macra* (Red Grass), *Rytidosperma racemosum* (Wallaby Grass), *Hydrocotyle laxiflora* (Stinking Pennywort), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Rumex brownii* (Swamp Dock), *Desmodium varians* (Slender Tick-trefoil), *Gonocarpus tetragynus* (Poverty Raspwort), *Tricoryne elatior* (Yellow Autumn-lily), *Oxalis perennans*, *Geranium solanderi* var. *solanderi*, *Elymus scaber* (Common Wheatgrass), *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Rytidosperma pilosum* (Smooth-flowered Wallaby Grass), *Rytidosperma pallidum* (Silvertop Wallaby Grass), *Poa sieberiana* (Snowgrass), *Juncus subsecundus* (Finger Rush) and *Luzula densiflora* (Woodrush).
Condition and presence of weeds	PCT 352 occurs in the project footprint as three condition types: • Very low • Low • Moderate Exotic species are present in ranging densities throughout PCT 352, with higher covers recorded in the Very low and Low condition zones. More commonly recorded species include the forbs *Carthamus lanatus* (Saffron Thistle), *Rumex acetosella* (Sheep's Sorrel), *Trifolium repens* (White Clover) and *Trifolium subterraneum* (Subterranean Clover).
Justification of evidence used to identify the PCT	As mentioned above, PCT 352 is found predominantly in western side of the South eastern Highlands is associated with red clay soils derived mainly from metamorphic substrates on hillslopes. The PCT in the project footprint occurs across several Mitchell Landscapes which are all characterised by steep or undulating hills, (Adelong Granite Ranges, Boorowa Volcanics, Dalton Hills, Marilba Range and Oberon – Kialla Granites) whilst the soils of these landscapes aren't generally from metamorphic

PCT 352 - Red Stringybark - Blakelys Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	
	substrates, they are described as red or red to yellow soils. The landscape position of PCT 352 within the project footprint is therefore generally aligned to the landscape description of PCT 352. Additionally, diagnostic canopy species of PCT 352 include *Eucalyptus macrorhyncha, Eucalyptus blakelyi* and *Eucalyptus melliodora* all of which were observed throughout this PCT. Two non-diagnostic canopy species were recorded in this PCT (*Eucalyptus bridgesiana* and *Eucalyptus pauciflora*), which can most likely be attributed to ecotonal changes and variations. In the wooded areas the midstorey is very sparse which is characteristic of PCT 352. No diagnostic species of PCT 352 were recorded in the plots sampled. Plots sampled confirm the presence of groundcover species diagnostic of PCT 352, including *Bothriochloa macra, Hydrocotyle laxiflora, Lomandra filiformis, Rumex brownii, Desmodium varians, Gonocarpus tetragynus, Tricoryne elatior, Oxalis perennans, Geranium solanderi* var. *solanderi, Elymus scaber*, *Microlaena stipoides* var. *stipoides* and *Poa sieberiana*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 352 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 352 in Very low, Low and Moderate condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 352 in Moderate condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
Photos	

PCT 352 - Red Stringybark - Blakelys Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Photo 62. Very low condition native grassland (photo taken at plot YG01407E)

PCT 352 - Red Stringybark - Blakelys Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Photo 63. Low condition woodland (photo taken at plot YG014754)

PCT 352 - Red Stringybark - Blakelys Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Photo 64. Moderate condition woodland (photo taken at plot YG014FF0)

Number of plots sampled

Six plots were sampled within the Murrumbateman bioregion, including:

Very low condition:

- YG016E7C
- YG01407E
- YG016726

Low condition:

- YG014754

Moderate condition:

- YG014FF0
- YG013197

PCT 638 - Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	
Vegetation formation	Wet Sclerophyll Forests (Grassy sub-formation)
Vegetation class	Montane Wet Sclerophyll Forests
Conservation status	PCT 638 has no associated TEC.
% remaining in NSW	95
Extent	PCT 638 occurs in mountainous areas at high altitude mainly in the western and southern parts of Kosciuszko including the Bago-Maragle area.
Diagnostic canopy species for PCT 638	The canopy is dominated by *Eucalyptus delegatensis* subsp. *delegatensis* (Alpine Ash) and *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum).
Diagnostic midstorey species for PCT 638	The midstorey comprises species such as *Acacia obliquinervia* (Mountain Hickory), *Coprosma hirtella* (Coffee-berry), *Daviesia latifolia* (Bitter-pea), *Polyscias sambucifolia* (Elderberry Panax) and *Tasmannia xerophila*.
Diagnostic groundcover species for PCT 638	The groundcover is comprised of species such as *Acaena ovina* (Acaena), *Asperula conferta* (Common Woodruff), *Clematis aristata* (Old Man's Beard), *Polystichum proliferum* (Mother Shield Fern), *Stellaria pungens* (Prickly Starwort), *Veronica derwentiana* and *Viola betonicifolia* (Native Violet).
Condition and presence of weeds	PCT 638 is in the project footprint in High condition. Weeds are absent or have a low cover throughout most of PCT 638. The most common exotic species recorded was *Rubus anglocandicans* (Blackberry), which was typically found in dense patches, potentially in areas of past disturbance.
Justification of evidence used to identify the PCT	As mentioned above, PCT 638 is found in mountainous areas at high altitude mainly in the western and southern parts of Kosciuszko including the Bago-Maragle area. PCT 638 in the project footprint occurs between 1,049 - 1,213m asl. Diagnostic canopy species of PCT 638 include *Eucalyptus delegatensis* subsp. *delegatensis* and *Eucalyptus dalrympleana* subsp. *dalrympleana,* both of which were observed throughout this PCT. The midstorey is shrubby which is characteristic of PCT 638. Recorded diagnostic species include *Coprosma hirtella, Daviesia latifolia, Polyscias sambucifolia* and *Tasmannia* sp. Plots sampled confirm the presence of groundcover species diagnostic of PCT 638, including *Asperula conferta, Clematis aristata, Stellaria pungens, Veronica derwentiana* and *Viola betonicifolia.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 638 within the project footprint is shown in Figure 6-1.

PCT 638 - Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion

Photos	 **Photo 65. High condition forest (photo taken at plot WM09498C)**
Number of plots sampled	Sixteen plots sampled within the Snowy Mountains bioregion, including: High condition: • WM0944D7 • WM094580 • WM094437 • WM09498C • WM094913 • WM094E96 • WM094A73 • WM094B46 • WM094613 • WM094F0B • WM094034 • WM094037 • WM094D85 • WM094BD0 • WM094C38 • WM0949C2

PCT 679 - Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Subalpine Woodlands
Conservation status	PCT 679 aligns to Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC listed as Critically Endangered under the BC Act. This TEC alignment only applies for PCT 679 mapped in the Crookwell IBRA Subregion (South Eastern Highland Bioregion).
% remaining in NSW	65
Extent	PCT 679 is found in frost hollow drainage lines in montane and tableland areas.
Diagnostic canopy species for PCT 679	The canopy is comprised of *Eucalyptus stellulata* (Black Sally), *Eucalyptus pauciflora* (White Sally), *Eucalyptus rubida* subsp. *rubida* (Candlebark), *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum) and *Eucalyptus aggregata* (Black Gum).
Diagnostic midstorey species for PCT 679	The midstorey comprises species such as *Baeckea utilis* (Mountain Baeckea), *Hakea microcarpa* (Small-fruited Hakea) and *Acrothamnus hookeri*.
Diagnostic groundcover species for PCT 679	The groundcover is comprised of grass and grass-like species such as *Carex appressa* (Tall Sedge), *Carex inversa* (Knob Sedge), *Empodisma minus, Poa labillardierei* var. *labillardierei* (Tussock), *Poa sieberiana* var. *sieberiana* (Snowgrass) and *Baloskion australe*. It includes forbs such as *Acaena novae-zelandiae* (Bidgee-widgee), *Asperula scoparia* (Prickly Woodruff) and *Hydrocotyle sibthorpioides*.
Condition and presence of weeds	PCT 679 occurs in the project footprint as three condition types: • Low • Moderate • High Exotic species are present throughout PCT 679, typically with higher covers recorded in the Low and Moderate condition zones. Wind dispersed species from the Asteraceae (daisy) and Poaceae (grass) families are the most commonly recorded species, such as *Holcus lanatus* (Yorkshire Fog) and *Hypochaeris radicata* (Catsear), however the cover of these species was low across the plots sampled. The climber *Rubus anglocandicans* (Blackberry) was recorded in several plots and observed as scattered but dense patches throughout the PCT.
Justification of evidence used to identify the PCT	As mentioned above, PCT 679 is found in frost hollow drainage lines in montane and tableland areas. Within the project footprint, PCT 679 is generally mapped along shallow drainage lines and depressions in montane areas. This is consistent with the landscape description for PCT 679. Diagnostic canopy species of PCT 679 include *Eucalyptus delegatensis* subsp. *delegatensis* and *Eucalyptus pauciflora* with *Eucalyptus dalrympleana* subsp. *dalrympleana*, all of which were observed throughout this PCT. No diagnostic midstorey species of PCT 679 were recorded in the plots sampled.

PCT 679 - Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	
	Plots sampled confirm the presence of groundcover species diagnostic of PCT 679, including *Carex appressa, Poa labillardierei* var. *labillardierei, Poa sieberiana* var. *sieberiana, Acaena novae-zelandiae* and *Asperula scoparia*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 679 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.4 and Table 6-14 of the BDAR, PCT 679 in Low, Moderate and High condition aligns to the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland TEC.
Photos	 **Photo 66. Low condition woodland (photo taken at plot MA002091)**

PCT 679 - Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion

Photo 67. Moderate condition woodland (photo taken at plot BY044B95)

Photo 68. High condition woodland (photo taken at plot MA002A7B)

Number of plots sampled	Eight plots were sampled within the Snowy Mountains and Crookwell bioregions: Low condition: • MA002091

PCT 679 - Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	
	• BY044EBA Moderate condition: • BY044B95 High condition: • BY-049D • MA002A7B • BY096B08 • MA006A4D • WM114DA6

PCT 727 - Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 727 is associated with the Mt Canobolas Xanthoparmelia Lichen Community TEC listed as Endangered under the BC Act. However, given the TEC has a highly restricted distribution (Mt Canobolas in central-western New South Wales), PCT 727 in the project footprint is not considered to align to the TEC.
% remaining in NSW	50
Extent	PCT 727 is known to occur on undulating exposed and sheltered footslopes.
Diagnostic canopy species for PCT 727	The canopy is dominated by *Eucalyptus dives* (Broad-leaved Peppermint), *Eucalyptus mannifera* (Brittle Gum) and *Eucalyptus macrorhyncha* (Red Stringybark).
Diagnostic midstorey species for PCT 727	The midstorey comprises species such as *Acacia falciformis* (Broad-leaved Hickory), *Acacia gunnii* (Ploughshare Wattle), *Brachyloma daphnoides* (Daphne Heath) and *Daviesia leptophylla*.
Diagnostic groundcover species for PCT 727	The groundcover is comprised of species such as *Gonocarpus tetragynus* (Poverty Raspwort), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Hovea linearis*, *Rytidosperma pallidum* (Redanther Wallaby Grass) and *Poa sieberiana* var. *sieberiana* (Snowgrass).
Condition and presence of weeds	PCT 727 occurs in the project footprint as three condition types: • Very low • Moderate • Very high Exotic species are present throughout PCT 727, typically with higher covers recorded in the Very low condition zone, with commonly recorded weeds including the forb species *Acetosella vulgaris* (Sheep Sorrel) and *Hypochaeris radicata* (Catsear), and the grass *Dactylis glomerata* (Cocksfoot).
Justification of evidence used to identify the PCT	As mentioned above, PCT 727 is found on undulating exposed and sheltered footslopes. PCT 727 in the project footprint predominantly occurs in the Rockley Plains Mitchell Landscape which is characterised by low rolling hills on a plateau surface. Diagnostic canopy species of PCT 727 include *Eucalyptus dives*, *Eucalyptus mannifera* and *Eucalyptus macrorhyncha*, all of which were observed throughout this PCT. Diagnostic species recorded in the midstorey include *Acacia gunnii* and *Brachyloma daphnoides*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 727, including *Gonocarpus tetragynus, Rytidosperma pallidum* and *Poa sieberiana* var. *sieberiana*.

PCT 727 - Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	
	A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 727 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 69. Very low condition woodland (photo taken at plot BY045261)**

PCT 727 - Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion

Photo 70. Moderate condition woodland (photo taken at plot BY0455B5)

Photo 71. Very high condition woodland (photo taken at plot BY-049C)

Number of plots sampled	Seven plots were sampled within the Crookwell bioregion: Very low condition:

PCT 727 - Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	
	• BY045261 • BY045BFA Moderate condition: • BY-049B • BY0455B5 Very high condition: • BY-049C • BY-049A • BY-048A

PCT 731 - Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Southern Tableland Grassy Woodlands
Conservation status	PCT 731 has no associated TEC.
% remaining in NSW	20
Extent	PCT 731 occurs on undulating hills between 550 and 1100 m from the western Blue Mountains to near Braidwood.
Diagnostic canopy species for PCT 731	The canopy is dominated by *Eucalyptus dives* (Broad-leaved Peppermint), *Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus mannifera* (Brittle Gum), *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum), *Eucalyptus rossii* (Inland Scribbly Gum) and *Eucalyptus cinerea* (Argyle Apple).
Diagnostic midstorey species for PCT 731	The midstorey is typically sparse and only has one diagnostic species *Melichrus urceolatus* (Urn Heath).
Diagnostic groundcover species for PCT 731	The groundcover is comprised of species such as *Rytidosperma racemosum* (Wallaby Grass), *Gonocarpus tetragynus* (Poverty Raspwort), *Goodenia hederacea* (Ivy Goodenia), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Hydrocotyle laxiflora* (Stinking Pennywort), *Hypericum gramineum* (Small St John's Wort), *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Microlaena stipoides* var. *stipoides* (Weeping Grass) and *Oxalis perennans*.
Condition and presence of weeds	PCT 731 occurs in the project footprint as four condition types: • Very low • Low • Moderate • High A moderate to high cover of exotic species is present throughout PCT 731, with a large portion of species comprising grass species such as *Anthoxanthum odoratum* (Sweet Vernal Grass) and *Holcus lanatus* (Yorkshire Fog). Exotic forb species were also recorded throughout this PCT, with a low cover of *Hypochaeris radicata* (Catsear) present in all plots sampled and *Plantago lanceolata* (Lamb's Tongues) recorded with high coverage in several plots.
Justification of evidence used to identify the PCT	As mentioned above, PCT 731 is found on undulating hills between 550 and 1100 m from the western Blue Mountains to near Braidwood. The PCT in the project footprint predominantly occurs within 419-1048 m asl, and a small portion of it is mapped between 299-418 m asl. The PCT in the project footprint occurs across four Mitchell Landscapes Towrang Ranges, Dalton Hills, Gundary Plains and Crookwell Basalts and Sands.

PCT 731 - Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	
	Diagnostic canopy species of PCT 731 include *Eucalyptus dives, Eucalyptus macrorhyncha, Eucalyptus dalrympleana* subsp. *dalrympleana* and *Eucalyptus cinerea*, all of which were observed throughout this PCT. Two canopy species that are not known to occur in PCT 731 (*Eucalyptus blakelyi* and *Eucalyptus sieberi)*, were both recorded in one plot each, however can most likely be attributed to ecotonal variations. The midstorey was typically sparse and species recorded often included the diagnostic *Melichrus urceolatus.* Plots sampled confirm the presence of groundcover species diagnostic of PCT 731, including *Rytidosperma racemosum, Gonocarpus tetragynus, Goodenia hederacea, Hydrocotyle laxiflora, Hypericum gramineum, Lomandra filiformis* subsp. *coriacea, Microlaena stipoides* var. *stipoides* and *Oxalis perennans.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 731 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 72. Low condition native grassland (photo taken at plot BY-032C)**

PCT 731 - Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Photo 73. Moderate condition woodland (photo taken at plot BY0348E7)

Photo 74. High condition woodland (photo taken at plot BY-032A)

Number of plots sampled	Thirteen plots were sampled within the Crookwell and Murrumbateman bioregions: Low condition: • BY-032C

PCT 731 - Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	
	• BY03130D • BY034745 • BY0349F2 • BY034E63 Moderate condition: • BY035E53 • BY0348E7 • BY-032B • BY0340E3 • BY03470F High condition: • BY-032A • BY13011EC5 • BY13010FC9

PCT 870 - Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation class	Central Gorge Dry Sclerophyll Forests
Conservation status	PCT 870 has no associated TEC.
% remaining in NSW	90
Extent	PCT 870 occurs on loams on dry slopes within rocky gorges of the Kowmung and Wollondilly Rivers between 100 and 750 m asl.
Diagnostic canopy species for PCT 870	The canopy typically includes *Eucalyptus punctata* (Grey Gum), *Eucalyptus eugenioides* (Thin-leaved Stringybark), *Eucalyptus tereticornis* (Forest Red Gum), *Eucalyptus cypellocarpa* (Monkey Gum) and *Eucalyptus elata* (River Peppermint).
Diagnostic midstorey species for PCT 870	The midstorey is typically comprised of *Acacia falciformis* (Broad-leaved Hickory), *Clematis aristata* (Old Man's Beard) and *Olearia viscidula* (Wallaby Weed).
Diagnostic groundcover species for PCT 870	The groundcover is comprised of grass and grass like species such as *Echinopogon ovatus* (Forest Hedgehog Grass), *Lomandra longifolia* (Spiny-headed Mat-rush) and *Lomandra multiflora* subsp. *multiflora* (Many-flowered Mat-rush). Diagnostic forbs include *Dichondra repens* (Kidney Weed), *Hypericum gramineum* (Small St John's Wort), *Poranthera microphylla* (Small Poranthera), *Lobelia purpurascens* (Whiteroot), *Veronica plebeia* (Trailing Speedwell) and *Wahlenbergia stricta* subsp. *stricta* (Tall Bluebell). The climbers *Desmodium gunnii* (Slender Tick-trefoil) and *Geitonoplesium cymosum* (Scrambling Lily), and the fern *Cheilanthes sieberi* subsp. *sieberi* (Rock Fern), may also be present.
Condition and presence of weeds	PCT 870 in the project footprint was only recorded in Very high condition. A low cover of wind dispersed exotic species predominantly from the Asteraceae (daisy) family are present throughout most of PCT 870.
Justification of evidence used to identify the PCT	PCT 870 occurs between 100 and 750 m asl on dry slopes and rocky gorges. The PCT in the project footprint occurs within 659-898m asl and is in the Wollondilly - Bindook Tablelands and Gorges Mitchell Landscape, which is characterised by gorges and scree slopes. *Eucalyptus punctata* and *Eucalyptus eugenioides* were the only canopy species recorded in this PCT and are both considered diagnostic species of PCT 870. The midstorey was sparse and species recorded included *Olearia* sp. Plots sampled confirm the presence of groundcover species diagnostic of PCT 870, including *Lomandra multiflora* subsp. *multiflora, Dichondra repens, Poranthera microphylla. Veronica plebeia, Wahlenbergia stricta* subsp. *stricta* and *Cheilanthes sieberi* subsp. *sieberi.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 870 within the project footprint is shown in Figure 6-1.

PCT 870 - Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	
Photos	 **Photo 75. Very high condition woodland (photo taken at plot BY008-F)**
Number of plots sampled	Three plots were sampled within the Bungonia bioregion, including: Very high condition: • BY008-F • BY008-G • BY008-H

PCT 939 - Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	
Vegetation formation	Freshwater Wetlands
Vegetation class	Montane Bogs and Fens
Conservation status	PCT 939 aligns to the Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions TEC listed as Endangered under the BC Act. The PCT can also align to the Alpine Sphagnum Bogs and Associated Fens TEC listed as Endangered under the EPBC Act.
% remaining in NSW	50
Extent	PCT 939 is described as having a diverse open shrub stratum over 1 m tall dominated by species in the Myrtaceae and Epacridaceae families. The continuous groundcover is dominated by sedges with occasional grasses and a diverse range of herbs. The PCT typically occurs on waterlogged broad open flat gullies on alluvium derived from granitic or metasediments substrates above 800 m elevation on the eastern edge of the tablelands.
Diagnostic canopy species for PCT 939	Where present, the canopy typically includes species such as *Eucalyptus aquatica* (Broad-leaved Sally), *Eucalyptus parvula* (Small-leaved Gum), *Eucalyptus pauciflora* (White Sally) and *Eucalyptus stellulata* (Black Sally).
Diagnostic midstorey species for PCT 939	The midstorey is typically diverse and open and characterised by species such as *Baeckea utilis* (Mountain Baeckea), *Epacris breviflora, Epacris paludosa* (Swamp Heath), *Hakea microcarpa* (Small-fruited Hakea) and *Leptospermum myrtifolium*.
Diagnostic groundcover species for PCT 939	The groundcover is comprised a diverse range of forbs, sedges and occasional grasses including *Baloskion australe, Carex appressa* (Tall Sedge) *Empodisma minus*, *Phragmites australis* (Common Reed), *Acaena novae-zelandiae* (Bidgee-widgee), *Asperula gunnii* (Mountain Woodruff), *Centella asiatica* (Indian Pennywort), *Gonocarpus micranthus, Lobelia anceps, Persicaria decipiens* (Slender Knotweed), *Persicaria praetermissa* and *Ranunculus inundatus* (River Buttercup).
Condition and presence of weeds	PCT 939 occurs in the project footprint in Very high condition. Exotic species are present throughout PCT 939. Species recorded in the plots sampled include *Holcus lanatus* (Yorkshire Fog) and *Rubus anglocandicans* (Blackberry).
Justification of evidence used to identify the PCT	The PCT in the project footprint occurs entirely on the Tooma Granite Ranges Mitchell Landscape which is characterised by granite geology. Additionally, the PCT occurs above 800 m elevation (between 899-1213m asl) in boggy areas of impeded drainage near the headwaters of streams. PCT 939 within the project footprint is therefore consistent with the landscape description of PCT 939. Trees were absent or present in low abundance in this PCT and no diagnostic canopy species were recorded in the plots sampled. The midstorey was mid-dense to dense and species recorded were diagnostic of PCT 939 and include *Baeckea utilis, Epacris breviflora, Hakea microcarpa* and *Leptospermum myrtifolium*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 939, forb species dominated the groundcover and diagnostic species include, *Gonocarpus micranthus, Asperula gunnii, Acaena novae-zelandiae, Centella asiatica* and *Ranunculus inundatus*.

PCT 939 - Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	
	Diagnostic grass and grass like species were also recorded and included *Carex appressa* and *Empodisma minus*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 939 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.5 and Table 6-15 of the BDAR, PCT 939 in Very high condition aligns to the BC Act listed Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions TEC.
How it meets the EPBC Act Determination	As outlined in Section 6.5.5 and Table 6-16 of the BDAR, PCT 939 in Very high condition aligns to the EPBC Act listed Alpine Sphagnum Bogs and Associated Fens TEC.
Photos	 **Photo 76. Very high condition grassland (photo taken at plot WM094BOG2)**
Number of plots sampled	Two plots were sampled within the Snowy Mountains bioregion, including: Very high condition: • WM094E2 • WM094BOG2

PCT 952 - Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Subalpine Woodlands
Conservation status	PCT 952 is associated with the Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions TEC listed as Endangered under the BC Act.
% remaining in NSW	50
Extent	PCT 952 typically occurs on gentle terrain on the tableland above 700 m elevation, on granitic or metasedimentary substrates.
Diagnostic canopy species for PCT 952	Diagnostic species in the canopy include *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum), *Eucalyptus radiata* subsp. *radiata* (Candlebark), *Eucalyptus pauciflora* (White Sally) and *Eucalyptus dives* (Broad-leaved Peppermint).
Diagnostic midstorey species for PCT 952	The midstorey is characterised by the presence of *Bossiaea foliosa* (Leafy Bossiaea), *Daviesia ulicifolia* (Gorse Bitter Pea), *Hibbertia obtusifolia* (Hoary Guinea Flower), *Hovea linearis, Leucopogon lanceolatus, Monotoca scoparia* and *Persoonia silvatica*.
Diagnostic groundcover species for PCT 952	The groundcover is comprised of species such as *Dianella tasmanica, Gonocarpus tetragynus* (Poverty Raspwort), *Lomandra longifolia* (Spiny-headed Mat-rush), *Microlaena stipoides* var. *stipoides* (Weeping Grass) and *Stylidium graminifolium* (Grass Triggerplant).
Condition and presence of weeds	PCT 952 occurs in the project footprint as three condition types: • Very low • Low • Moderate A moderate to high cover of exotic species are present throughout PCT 952. The most commonly recorded weeds are wind dispersed species from the Asteraceae (daisy) and Poaceae (grass) families. Common exotic species include *Hypochaeris radicata* (Catsear), *Cirsium vulgare* (Spear Thistle), *Holcus lanatus* (Yorkshire Fog), and *Phleum pratense* (Timothy).
Justification of evidence used to identify the PCT	As mentioned above, PCT 952 is found on gentle terrain on the tableland above 700 m elevation, on granitic or metasedimentary substrates. All of the PCT in the project footprint occurs about 700 m elevation (771 – 898 m asl.). Half of PCT 952 in the project footprint occurs on the Crookwell Basalts and Sands Mitchell Landscape which is characterised by moderately extensive flat topped tablelands and hills capped by Tertiary basalt. The other half of the PCT is mapped as occurring on the Towrang Ranges which is characterised as predominantly comprising sedimentary geology. Diagnostic canopy species of PCT 952 include *Eucalyptus pauciflora* and *Eucalyptus dives,* both of which were observed throughout this PCT.

PCT 952 - Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	
	The midstorey was typically sparse and no diagnostic species were recorded in the plots sampled. This could be attributed to the low condition of the vegetation in the project footprint. No High or Very high condition woodland was recorded in the project footprint. Plots sampled confirm the presence of groundcover species diagnostic of PCT 952, including *Dianella* sp., *Gonocarpus tetragynus* and *Microlaena stipoides* var. *stipoides*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 952 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.3 and Table 6-13 of the BDAR, PCT 952 in Very low, Low and Moderate condition aligns to the BC Act listed Tableland Basalt Forest.
Photos	 **Photo 77. Very low condition grassland (photo taken at plot BY-026A)**

Photo 78. Low condition grassland (photo taken at plot BY-029C)

Photo 79. Moderate condition woodland (photo taken at plot BY-029B)

PCT 952 - Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	
Number of plots sampled	Seven plots were sampled within the Crookwell bioregion: Very low condition: • BY-026A Low condition: • BY-029D • BY-029C • BY-029A Moderate condition: • BY-032D • BY-029B • BY-026B

PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 953 aligns to Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions which is listed as an Endangered Ecological Community under the BC Act. This TEC alignment only applies for PCT 953 mapped in the Bondo IBRA Subregion (South Eastern Highland Bioregion).
% remaining in NSW	95
Extent	PCT 953 occurs in montane areas mainly in the northern Kosciuszko/Brindabella area and Tallaganda/Badja range.
Diagnostic canopy species for PCT 953	The canopy is characterised by the presence of by *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum), *Eucalyptus pauciflora* (White Sally), *Eucalyptus dives* (Broad-leaved Peppermint) and *Eucalyptus robertsonii* subsp. *robertsonii* (Robertson's Peppermint).
Diagnostic midstorey species for PCT 953	The midstorey is typically shrubby with characteristic species including *Acacia dealbata* (Silver Wattle), Acacia rubida (Red-stemmed Wattle), *Brachyloma daphnoides* (Daphne Heath), *Cassinia longifolia*, *Cassinia uncata* (Sticky Cassinia), *Daviesia latifolia* (Bitter-pea), *Exocarpos strictus* (Dwarf Cherry), *Olearia erubescens* (Pink-tip Daisy-bush), *Oxylobium ellipticum* (Common Shaggy Pea), *Platylobium formosum* and *Daviesia mimosoides* subsp. *mimosoides*.
Diagnostic groundcover species for PCT 953	The groundcover is comprised of species such as *Asperula scoparia* (Prickly Woodruff), *Glycine clandestina* (Twining glycine), *Lomandra longifolia* (Spiny-headed Mat-rush), *Persoonia chamaepitys* (Mountain Geebung), *Poa induta*, *Pteridium esculentum* (Bracken), *Senecio gunnii*, *Stackhousia monogyna* (Creamy Candles), *Stylidium graminifolium* (Grass Triggerplant) and *Viola betonicifolia* (Native Violet).
Condition and presence of weeds	PCT 953 occurs in the project footprint as three condition types: • Low • High • Very high Exotic species are present in throughout PCT 953, typically with higher covers recorded in the Low condition zones, with the most prolific weeds comprising forbs species such as *Hypericum perforatum* (St. Johns Wort), *Centaurium erythraea* (Common Centaury), *Hypochaeris radicata* (Catsear) and *Trifolium arvense* (Haresfoot Clover). The grass *Holcus lanatus* (Yorkshire Fog) was also recorded throughout this PCT.
Justification of evidence used to	As mentioned above, PCT 953 is found in montane areas mainly in the northern Kosciuszko/Brindabella area and Tallaganda/Badja range. The majority of the PCT in the project footprint is mapped in the Snowy Mountains IBRA subregion and is above 899 m asl.

PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	
identify the PCT	The diagnostic canopy species of PCT 953 *Eucalyptus dalrympleana* subsp. *dalrympleana*, *Eucalyptus pauciflora* and *Eucalyptus dives* were observed throughout this PCT. The midstorey was typically shrubby which is characteristic of PCT 953. Diagnostic species in the sampled plots include *Acacia dealbata, Daviesia latifolia, Exocarpos strictus, Olearia erubescens* and *Platylobium formosum*. Plots sampled confirm the presence of groundcover species diagnostic of PCT 953, including *Asperula scoparia, Glycine clandestina, Lomandra longifolia, Persoonia chamaepitys, Poa induta, Pteridium esculentum, Senecio gunnii*, *Stackhousia monogyna, Stylidium graminifolium* and *Viola betonicifolia.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 953 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.3 and Table 6-13 of the BDAR, PCT 953 in Low, High and Very high condition aligns to the BC Act listed Tableland Basalt Forest.
Photos	 **Photo 80. Low condition grassland (photo taken at plot WM094898)**

PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion

Photo 81. High condition woodland (photo taken at plot MA014EB4)

Photo 82. Very high condition woodland (photo taken at plot MA0041AA)

PCT 953 - Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	
Number of plots sampled	40 plots were sampled within the Snowy Mountains and Bondo IBRA subregions: Low condition: • MA094OUT5 • MA094E3 • MA094OUT1 • WM094898 • MA094OUT4 • WM094703 • MA094OUT3 • WM0944F1 High condition: • MA014C96 • MA013191 • MA014EB4 • MA013985 • MA013091 • MA0118CA • MA013E74 • MA013B4A Very high condition: • WM117798 • WM094E0E • WM114574 • WM114F2B • MA0041AA • WM0942C1 • WM1147C9 • WM094E52 • WM094971 • WM094953 • WM11404F • WM094203 • WM094284 • WM0945E2 • WM1140A2 • WM094503 • MA-009A • WM117287 • WM114976 • WM094A2B • WM094D78 • WM114C79 • WM11484B • WM117873

PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Conservation status	PCT 1093 has no associated TEC.
% remaining in NSW	39
Extent	PCT 1093 occurs on ridges and slopes between 550 and 1150 m on the Southern and Central Tablelands, between Wallerawang and Captains Flat.
Diagnostic canopy species for PCT 1093	The canopy is dominated by *Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus mannifera* (Brittle Gum), *Eucalyptus rossii* (Inland Scribbly Gum), *Eucalyptus dives* (Broad-leaved Peppermint) and *Eucalyptus goniocalyx* (Long-leaved Box).
Diagnostic midstorey species for PCT 1093	The midstorey is typically open with characteristic species including *Brachyloma daphnoides* (Daphne Heath), *Daviesia leptophylla* and *Hibbertia obtusifolia* (Hoary Guinea Flower).
Diagnostic groundcover species for PCT 1093	The groundcover is comprised of species such as *Dianella revoluta* var. *revoluta* (A Blue Flax Lily), *Gonocarpus tetragynus* (Poverty Raspwort), *Hovea linearis*, *Rytidosperma pallidum* (Silvertop Wallaby Grass) and *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush).
Condition and presence of weeds	PCT 1093 occurs in the project footprint as five condition types: • Very low • Low • Moderate • High • Very high Exotic species are present throughout most of PCT 1093 in the project footprint, with an overall higher cover in the Very low and Low condition classes.
Justification of evidence used to identify the PCT	As mentioned above, PCT 1093 is found on ridges and slopes between 550 and 1150 m on the Southern and Central Tablelands, between Wallerawang and Captains Flat. The PCT in the project footprint occurs across six Mitchell Landscapes including Rockley Plains, Dalton Hills, Towrang Ranges, Crookwell Basalts and Sands, Gundary Plains and Gunning Hills, generally on ridges and slopes. Additionally, all of PCT 1093 in the project footprint occurs within 419-1048 m asl.

PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	
	The canopy of PCT 1093 within the project footprint was dominated by *Eucalyptus macrorhyncha, Eucalyptus mannifera* and *Eucalyptus rossii.* The diagnostic canopy species *Eucalyptus dives* and *Eucalyptus goniocalyx* were also present to a lesser extent. The non-diagnostic canopy species *Eucalyptus bridgesiana, Eucalyptus melliodora*, *Eucalyptus sieberi* and *Eucalyptus viminalis* were also recorded in low abundance in this PCT. The presence of these species may be due to ecotonal variation. The midstorey was typically sparse to mid-dense. Species diagnostic of PCT 1093 that were recorded include *Brachyloma daphnoides* and *Hibbertia obtusifolia*. *Cassinia sifton* was recorded throughout this PCT, which can most likely be attributed to past and present land management practices. Plots sampled confirm the presence of groundcover species diagnostic of PCT 1093, including *Dianella revoluta* var. *revoluta, Gonocarpus tetragynus, Hovea linearis, Rytidosperma pallidum* and *Lomandra filiformis* subsp. *coriacea.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 1093 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 83. Very low condition native grassland (photo taken at plot BY0763CA)**

PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Photo 84. Low condition woodland (photo taken at plot BY0382AE)

Photo 85. Moderate condition woodland (photo taken at plot BY1301502)

PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Photo 86. High condition woodland (photo taken at plot BY052A65)

Photo 87. Very high condition woodland (photo taken at plot BY-014D)

Number of plots sampled	Thirty-eight plots were sampled within the Crookwell, Bungonia and Murrumbateman bioregions: Very low condition:

PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

- BY-014L

Low condition:

- BY076ED0
- BY0529A5
- BY052F82
- BY0382AE
- BY038CA3
- BY1301202
- BY-014I
- BY-014B
- BY-014C
- BY1301695A
- BY13012678
- BY1301503

Moderate condition:

- BY0573C9
- BY052BA4
- BY1301501
- BY1301502
- BY13001795

High condition:

- BY083EC7
- BY052FAF
- BY1300903B
- 13009DEF
- BY13009E6B
- BY1110C5
- 6699ABB2
- BY052A65
- BY05274F
- BY0448CD

Very high condition:

- BY-014J
- BY-014H
- BY-014D
- BY-014F
- BY13012ACE
- BY130126C4
- BY11136B
- BY111515
- BY1301201
- BY130163BC

PCT 1097 - Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	
Vegetation formation	Wet Sclerophyll Forests (Grassy sub-formation)
Vegetation class	Southern Tableland Wet Sclerophyll Forests
Conservation status	PCT 1097 aligns to the Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions TEC listed as Endangered under the BC Act.
% remaining in NSW	5
Extent	PCT 1097 is typically found on undulating basalt tablelands between 600 and 1200 m, mainly between Oberon and Moss Vale.
Diagnostic canopy species for PCT 1097	The canopy is dominated by *Eucalyptus viminalis* (Ribbon Gum), *Eucalyptus radiata* subsp. *radiata* (Narrow-leaved peppermint) and *Acacia melanoxylon* (Blackwood).
Diagnostic midstorey species for PCT 1097	The midstorey is typically absent in this PCT.
Diagnostic groundcover species for PCT 1097	The groundcover is comprised of grass and grass like species such as *Austrostipa rudis, Echinopogon ovatus* (Forest Hedgehog Grass), *Microlaena stipoides* var. *stipoides* (Weeping Grass) and *Rytidosperma racemosum* (Wallaby Grass). Forb species such as *Acaena novae-zelandiae* (Bidgee-widgee), *Dichondra repens* (Kidney Weed), *Geranium solanderi* (Native Geranium), *Hydrocotyle laxiflora* (Stinking Pennywort), *Plantago varia*, *Stellaria pungens* (Prickly Starwort) and *Viola betonicifolia* (Native Violet). The climber *Desmodium varians* (Slender Tick-trefoil) and the fern *Pteridium esculentum* (Bracken) may also be present.
Condition and presence of weeds	PCT 1097 occurs in the project footprint in Very low condition. Weeds, predominantly grassy pasture weeds, are present throughout all of PCT 1097 in the project footprint.
Justification of evidence used to identify the PCT	As mentioned above, PCT 1097 is typically found on undulating basalt tablelands between 600 and 1200 m. Half of the PCT is in the project footprint occurs on the Crookwell Basalts and Sands Mitchell Landscape, and the other half occurs on the Rockley Plains and Wollondilly - Bindook Tablelands and Gorges Landscapes. Additionally, all of the PCT in the project footprint occurs between 659-898 m asl. Diagnostic the canopy species *Eucalyptus viminalis* and *Eucalyptus radiata subsp. radiata* were recorded as co-dominant species in the plots sampled. The midstorey was typically absent in the plots sampled which is characteristic of PCT 1097. Diagnostic species of PCT 1097 were not recorded in the plots sampled, this can be attributed to the Very low condition of PCT 1097 in the project footprint and the high cover of grassy pasture weeds in the understorey.

PCT 1097 - Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	
How it meets the BC Act Determination	As outlined in Section 6.5.3 and Table 6-13 of the BDAR, PCT 1097 in Very low condition aligns to the BC Act listed Tableland Basalt Forest.
Photos	 **Photo 88. Very low condition woodland (photo taken at plot BY020DBC)**
Number of plots sampled	Two plots were sampled within the Bungonia bioregion: Very low condition: • BY-020B • BY020DBC

PCT 1107 - River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	
Vegetation formation	Wet Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Southern Escarpment Wet Sclerophyll Forests
Conservation status	PCT 1107 aligns to the Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions TEC listed as Endangered under the BC Act.
% remaining in NSW	90
Extent	PCT 1107 occurs on sheltered slopes on high ranges of the escarpment, mainly between 600 and 1100m, from the western Blue Mountains to Deua National Park.
Diagnostic canopy species for PCT 1107	The canopy is characterised by *Eucalyptus elata* (River Peppermint), *Eucalyptus radiata* subsp. *radiata* (Narrow-leaved Peppermint), *Eucalyptus fastigata* (Brown Barrel), *Eucalyptus cypellocarpa* (Monkey Gum), *Eucalyptus viminalis* (Ribbon Gum) and *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum).
Diagnostic midstorey species for PCT 1107	The midstorey is typically open and species that may be present include *Clematis aristata* (Old Man's Beard), *Leucopogon lanceolatus* and *Rubus parvifolius* (Native Raspberry).
Diagnostic groundcover species for PCT 1107	The groundcover is described as being moist, herbaceous and comprised of grass and grass like species such as *Echinopogon ovatus* (Forest Hedgehog Grass), *Lomandra longifolia* (Spiny-headed Mat-rush) and *Microlaena stipoides* var. *stipoides* (Weeping Grass). Diagnostic forb species include *Dianella caerulea* (Blue Flax-lily), *Dichondra repens* (Kidney Weed), *Plantago debilis* (Shade Plantain), *Poranthera microphylla* (Small Poranthera), *Stellaria pungens* (Prickly Starwort), *Veronica plebeia* (Trailing Speedwell) and *Viola hederacea* (Ivy-leaved Violet). The climbers *Desmodium varians* (Slender Tick-trefoil) and *Glycine clandestina* (Twining glycine) and the fern *Pteridium esculentum* (Bracken) may be present in this PCT.
Condition and presence of weeds	PCT 1107 in the project footprint is in High condition. A low cover of exotic species is present in PCT 1107 and mostly comprise wind dispersed Asteraceae (daisy) species.
Justification of evidence used to identify the PCT	PCT 1107 occurs predominantly between 600 and 1100 m asl. The PCT in the project footprint occurs within this range, at 659-770 m asl. Additionally, the canopy species *Eucalyptus radiata* subsp. *radiata* and *Eucalyptus viminalis* were recorded throughout this PCT and are diagnostic of PCT 1107. *Eucalyptus dives* was also recorded in this PCT, however this could be attributed to ecotonal variations and there is no other PCT in the BioNet Vegetation Classification System with all three canopy species present. Based on this, PCT 1107 is the best fit for the vegetation in the project footprint. The midstorey was typically open which is characteristic of PCT 1107. The diagnostic species *Clematis aristata* was recorded in the plots sampled.

PCT 1107 - River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	
	Plots sampled confirm the presence of groundcover species diagnostic of PCT 1107, including, *Microlaena stipoides* var. *stipoides, Dichondra repens, Plantago debilis, Poranthera microphylla, Stellaria pungens, Veronica plebeia, Viola hederacea, Glycine* sp., and *Pteridium esculentum*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 638 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 89. High condition woodland (photo taken at plot BY010012FA)**
Number of plots sampled	Two plots were sampled within the Bungonia bioregion: High condition: • BY010012FA • BY0109B6

PCT 1150 - Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	South East Dry Sclerophyll Forests
Conservation status	PCT 1150 has no associated TEC.
% remaining in NSW	60
Extent	PCT 1150 occurs on sandy loams on ridges on the eastern margin of the tableland between 550 and 900m altitude.
Diagnostic canopy species for PCT 1150	The canopy is dominated by *Eucalyptus sieberi* (Silvertop Ash), *Eucalyptus agglomerata* (Blue-leaved Stringybark), *Eucalyptus globoidea* (White Stringybark) and *Eucalyptus mannifera* (Brittle Gum).
Diagnostic midstorey species for PCT 1150	The midstorey is typically open with characteristic species including *Allocasuarina littoralis* (Black She-Oak), *Hibbertia obtusifolia* (Hoary Guinea Flower) and *Persoonia linearis* (Narrow-leaved Geebung).
Diagnostic groundcover species for PCT 1150	The groundcover is comprised of species such as *Billardiera scandens* (Hairy Apple Berry), *Goodenia hederacea* (Ivy Goodenia), *Lomandra obliqua*, *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Pomax umbellata* (Pomax) and *Stypandra glauca* (Nodding Blue Lily).
Condition and presence of weeds	PCT 1150 occurs in the project footprint as two condition types: • Moderate • High Exotic species are present throughout most of PCT 1150, however there is minimal weed cover in the High condition vegetation, comprising a low cover of small wind dispersed Asteraceae (daisy) species.
Justification of evidence used to identify the PCT	As mentioned above, PCT 1150 occurs on sandy loams on ridges on the eastern margin of the tableland between 550 and 900 m altitude. Majority of the PCT in the project footprint occurs on the Rockley Plains Mitchell Landscape which is described as low rolling hills on plateau surface some sandstone geology. Additionally, all of the PCT in the project footprint occurs between 659 – 898 m asl. PCT 1150 in the project footprint therefore aligns with the landscape description of PCT 1150. Diagnostic canopy species of PCT 1150 include *Eucalyptus sieberi* and *Eucalyptus globoidea*, both of which were recorded in the plots sampled in this PCT. The midstorey was typically open which is characteristic of PCT 1150. Diagnostic species midstorey species recorded include *Hibbertia obtusifolia* and *Persoonia linearis*. The non-diagnostic species,

PCT 1150 - Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	
	Cassinia sifton was recorded in the Moderate condition vegetation ,which can most likely be attributed to disturbance factors as it is a known pioneer species of disturbed sites. Plots sampled confirm the presence of groundcover species diagnostic of PCT 1150, including *Billardiera scandens, Goodenia hederacea, Microlaena stipoides* var. *stipoides, Pomax umbellata* and *Stypandra glauca.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 1150 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 90. Moderate condition woodland (photo taken at plot BY008-C)**

PCT 1150 - Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion

Photo 91. High condition woodland (photo taken at plot BY010F5E)

Number of plots sampled

Two plots were sampled within the Bungonia bioregion:

Moderate condition:

- BY008-C

High condition:

- BY010F5E

PCT 1191 - Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Subalpine Woodlands
Conservation status	PCT 1191 aligns to the Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion TEC which is listed as Critically Endangered under the BC Act. This TEC alignment only applies for PCT 1191 mapped in the Crookwell IBRA Subregion (South Eastern Highland Bioregion).
% remaining in NSW	5
Extent	PCT 1191 occurs on frost-hollow flats and footslopes in undulating tableland areas between 600 and 1100 m.
Diagnostic canopy species for PCT 1191	The canopy is dominated by *Eucalyptus pauciflora (*White Sally), *Eucalyptus rubida* subsp. *rubida* (Candlebark), *Eucalyptus stellulata* (Black Sally), *Eucalyptus viminalis* (Ribbon Gum), *Eucalyptus bridgesiana* (Apple Box) and *Eucalyptus aggregata* (Black Gum).
Diagnostic midstorey species for PCT 1191	The midstorey is typically sparse but may include species such as *Acacia dealbata* (Silver Wattle), *Acacia melanoxylon* (Blackwood) and *Lissanthe strigosa* (Peach Heath).
Diagnostic groundcover species for PCT 1191	The groundcover is typically dense and grassy and comprised of grass and grass like species such as *Elymus scaber* (Common Wheatgrass), *Microlaena stipoides* var. *stipoides* (Weeping Grass) and *Themeda triandra* (Kangaroo Grass). Forbs such as, *Chrysocephalum apiculatum* (Common Everlasting), *Gonocarpus tetragynus* (Poverty Raspwort), *Hydrocotyle laxiflora* (Stinking Pennywort) and *Hypericum gramineum* (Small St John's Wort).
Condition and presence of weeds	PCT 1191 occurs in the project footprint as two condition types: • Low • Moderate Exotic species are present throughout all of PCT 1191.
Justification of evidence used to identify the PCT	As mentioned above, PCT 1191 typically occurs on frost-hollow flats and footslopes in undulating tableland areas between 600 and 1100m. The PCT in the project footprint occurs predominantly on the Rockley Plains Mitchell Landscape which is characterised as low rolling hills on plateau. Additionally the PCT occurs between 419-898 m asl in the project footprint. The landscape position of PCT 1191 in the project footprint is therefore consistent with the landscape description of PCT 1191. The diagnostic canopy species of PCT 1191 *Eucalyptus pauciflora* and *Eucalyptus rubida* subsp. *rubida* were recorded throughout this PCT. The midstorey was typically sparse which is characteristic of PCT 1191.

PCT 1191 - Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	
	Plots sampled confirm a dense and grassy groundcover which is characteristic of PCT 1191. Recorded diagnostic species include *Elymus scaber, Microlaena stipoides* var. *stipoides* and *Themeda triandra.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 1191 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.4 and Table 6-14 of the BDAR, PCT 1191 in Low and Moderate condition aligns to the BC Act listed Monaro Tableland Cool Temperate Grassy Woodland.
Photos	 **Photo 92. Low condition woodland (photo taken at plot BY066AC48)**

PCT 1191 - Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	
	 Photo 93. Moderate condition woodland (photo taken at plot 146MP009)
Number of plots sampled	Three plots were sampled within the Crookwell bioregion: Low condition: • BY06701F54 • BY066AC48 Moderate condition: • 146MP009

PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Subalpine Woodlands
Conservation status	PCT 1196 is associated with T*ableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*. However, PCT 1196 is only mapped in the Snowy Mountains IBRA Subregion (Australian Alps Bioregion). Therefore PCT 1196 mapped in the project footprint does not align to this TEC.
% remaining in NSW	95
Extent	PCT 1196 is widespread on montane to sub alpine slopes and ridges.
Diagnostic canopy species for PCT 1196	The canopy is dominated by *Eucalyptus pauciflora* (White Sally), *Eucalyptus dalrympleana* subsp. *dalrympleana* (Mountain Gum), *Eucalyptus fastigata* (Brown Barrel), *Eucalyptus delegatensis* subsp. *delegatensis* (Alpine Ash) and occasionally *Eucalyptus robertsonii* subsp. *robertsonii* (Robertson's Peppermint).
Diagnostic midstorey species for PCT 1196	The midstorey is typically shrubby with characteristic species including *Acacia dealbata* (Silver Wattle), *Coprosma hirtella* (Coffee-berry), *Daviesia latifolia* (Bitter-pea), *Daviesia ulicifolia* (Gorse Bitter Pea), *Olearia erubescens* (Pink-tip Daisy-bush), *Olearia megalophylla* (Large-leaf Daisy-bush), *Oxylobium ellipticum* (Common Shaggy Pea), *Platylobium formosum* subsp. *formosum*, *Daviesia mimosoides* subsp. *mimosoides* and *Polyscias sambucifolia* (Elderberry Panax).
Diagnostic groundcover species for PCT 1196	The groundcover is typically grassy and comprised by species such as *Microlaena stipoides* var. *stipoides* (Weeping Grass), *Poa meionectes*, *Poa sieberiana* var. *sieberiana* (Snowgrass), *Acaena novae-zelandiae* (Bidgee-widgee), *Acaena ovina* (Acaena), *Asperula scoparia* (Prickly Woodruff), *Dianella tasmanica* (Tasman Flax-lily), *Geranium neglectum* (Crane's Bill), *Lomandra longifolia* (Spiny-headed Mat-rush), *Luzula flaccida* (Woodrush), *Persoonia chamaepitys* (Mountain Geebung), *Poranthera microphylla* (Small Poranthera), *Senecio gunnii*, *Stellaria pungens* (Prickly Starwort), *Stylidium graminifolium* (Grass Triggerplant), *Coronidium scorpioides* (Button Everlasting), *Brachyscome spathulata*, *Lagenifera stipitata* (Blue Bottle-daisy) and *Viola betonicifolia* (Native Violet).
Condition and presence of weeds	PCT 1196 occurs in the project footprint as two condition types: • Low • High Weeds are present throughout PCT 1196 with the most common weeds comprising wind dispersed species of the Poaceae (grass) and Asteraceae (daisy) families.
Justification of evidence used to identify the PCT	As mentioned above, PCT 1196 is widespread on montane to sub alpine slopes and ridges. Whilst the PCT is not characterised by a specific elevation range, the PCT in the project footprint occurs between 1,049 - 1,213 m asl. Diagnostic canopy species of PCT 1196 include *Eucalyptus pauciflora* and *Eucalyptus dalrympleana* subsp. *dalrympleana* both of which were recorded throughout this PCT.

PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	
	The midstorey was typically shrubby which is characteristic of PCT 1196. Recorded diagnostic species include *Acacia dealbata, Daviesia latifolia, Daviesia ulicifolia* and *Olearia erubescens.* Plots sampled confirm the presence of groundcover species diagnostic of PCT 1196. Species include *Microlaena stipoides* var. *stipoides, Poa sieberiana* var. *sieberiana, Acaena novae-zelandiae, Asperula scoparia, Geranium neglectum, Lomandra longifolia, Poranthera microphylla, Senecio gunnii*, *Stellaria pungens, Lagenifera stipitata* and *Viola betonicifolia.* A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 1196 within the project footprint is shown in Figure 6-1.
Photos	 **Photo 94. Low condition woodland (photo taken at plot MA0023AE)**

PCT 1196 - Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion

Photo 95. High condition woodland (photo taken at plot MA002A30)

Number of plots sampled

Eight plots were sampled within the Snowy Mountains bioregion:

Low condition:

- MA0023AE

High condition:

- MA002A30
- MA0077B6
- MA002083
- MA002430
- WM094C4A
- WM094958
- WM0944CF

PCT 1224 - Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	
Vegetation formation	Grasslands
Vegetation class	Temperate Montane Grasslands
Conservation status	PCT 1224 has no associated TEC.
% remaining in NSW	95
Extent	PCT 1224 occurs on broad, flat valley bottoms in montane to sub-alpine areas between 1200 and 1600 m.
Diagnostic canopy species for PCT 1224	An absent canopy layer is diagnostic of PCT 1224.
Diagnostic midstorey species for PCT 1224	The midstorey is typically shrubby with characteristic species including *Hakea microcarpa* (Small-fruited Hakea), *Pimelea linifolia subsp. caesia* and *Leucopogon hookeri.*
Diagnostic groundcover species for PCT 1224	The groundcover is typically mid-dense to dense with grasses and forbs such as *Aciphylla simplicifolia* (Mountain Aciphyll), *Asperula gunnii* (Mountain Woodruff), *Brachyscome decipiens* (Field Daisy), *Carex breviculmis*, *Luzula flaccida* (Woodrush), *Oreomyrrhis argentea* (Silvery Carraway), *Poa clivicola* (Fine-leaved Snowgrass), *Poa hiemata* (Soft Snowgrass), *Poa phillipsiana*, *Ranunculus graniticola* (Granite Buttercup) and *Trisetum spicatum* (Bristle Grass).
Condition and presence of weeds	PCT 1224 occurs in the project footprint in High condition. Exotic species are present in low abundance throughout PCT 1224. Exotic species present include *Trifolium subterraneum* (Subterraneum Clover), *Rumex acetosella* (Sorrel) and *Hypochaeris radicata* (Catsear).
Justification of evidence used to identify the PCT	As mentioned above, PCT 1224 is typically found on broad, flat valley bottoms in montane to sub-alpine areas between 1200 and 1600 m. Within the project footprint, PCT 1224 is situated on a broad flat with small drainage lines at an altitude of approximately 1150 m asl. It is therefore generally consistent with the landscape description of PCT 1224. A canopy was absent in PCT 1224 in the project footprint which is typical of the PCT. A midstorey was sparse in the plots sampled and included *Hakea microcarpa* which is a diagnostic species of PCT 1224 and *Epacris microphylla*. *Luzula flaccida* was the only diagnostic groundcover species recorded in the plots of PCT 1224. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 1224 within the project footprint is shown in Figure 6-1.
Photos	

PCT 1224 - Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion

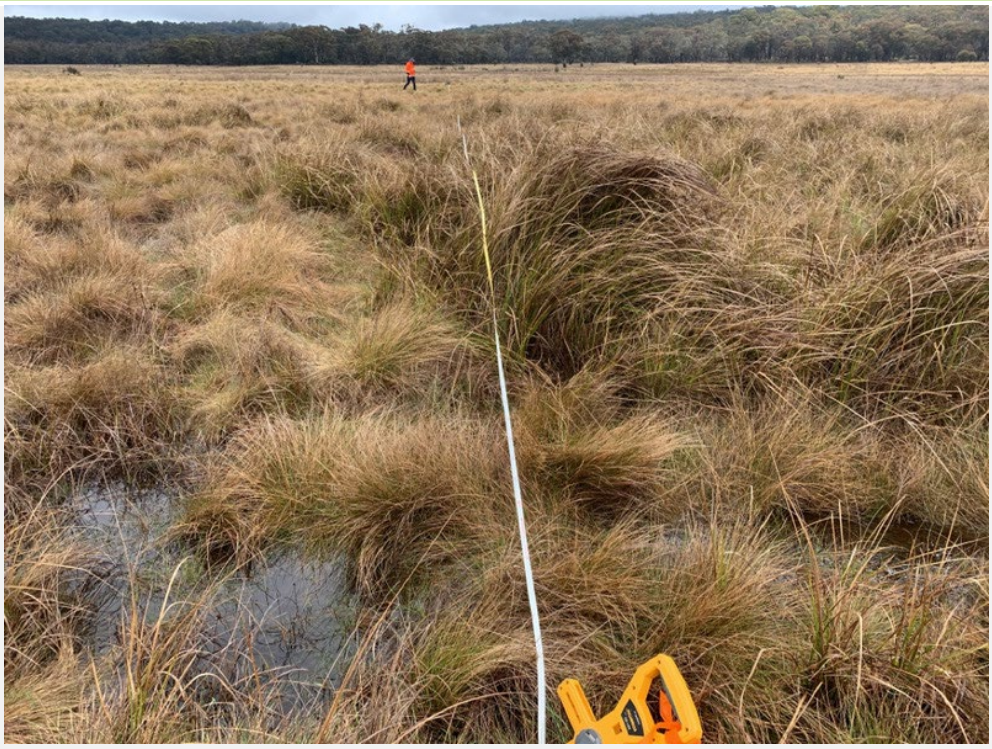


Photo 96. High condition (photo taken at plot MA0027A2)

Number of plots sampled	Three plots were sampled within the Snowy Mountains bioregion: High condition: • MA0027A2 • MA0019FF • MA001C58

PCT 1256 - Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	
Vegetation formation	Freshwater Wetlands
Vegetation class	Montane Bogs and Fens
Conservation status	PCT 1256 aligns to the Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions TEC listed as Endangered under the BC Act. PCT 1256 can also align to the Alpine Sphagnum Bogs and Associated Fens TEC listed as Endangered under the EPBC Act.
% remaining in NSW	15
Extent	PCT 1256 occurs on peats and humic loams in sediment-filled valleys up to 1000 m in the western Blue Mountains and Southern Tablelands.
Diagnostic canopy species for PCT 1256	An absent canopy layer is diagnostic of PCT 1256.
Diagnostic midstorey species for PCT 1256	The midstorey is typically shrubby with characteristic species including *Leptospermum juniperinum* (Prickly Tea-tree), *Leptospermum obovatum* and *Lythrum salicaria* (Purple Loosestrife).
Diagnostic groundcover species for PCT 1256	The groundcover is typically dense with sedges and forbs and comprises species such as *Baumea rubiginosa, Carex gaudichaudiana, Eleocharis sphacelata* (Tall Spike Rush), *Isachne globosa* (Swamp Millet), *Juncus usitatus, Phragmites australis* (Common Reed) and *Poa labillardierei* var. *labillardierei* (Tussock). Forb species include *Ranunculus inundatus* (River Buttercup) and *Hydrocotyle sibthorpioides*.
Condition and presence of weeds	PCT 1256 occurs in the project footprint in Low condition. PCT 1256 in the project footprint was mostly found in drainage channels in highly disturbed areas. Due to this, exotic species are present throughout PCT 1256, with a dominant species being *Phalaris aquatica* (Phalaris).
Justification of evidence used to identify the PCT	As mentioned above, PCT 1256 is typically found in sediment-filled valleys up to 1000 m. All of the PCT in the project footprint occurs between 419-898 m asl and was recorded in boggy areas of impeded drainage near the headwaters of streams. The PCT occurs across three Mitchell Landscapes in the project footprint; Boorowa Volcanics, Marilba Range and Rockley Plains. The Rockley Plains Mitchell landscape is associated with Silurian and Ordovician slate, phyllites, felspathic sandstones and interbedded volcanics. The Boorowa Volcanics Mitchell Landscape is associated with volcanic rocks varying in composition from felsic to intermediate and associated sedimentary rocks while the Marilba Range Mitchell landscape is also associated with steep dipping Devonian rhyolite, dacite, andesite, tuff and shale (DECC, 2002). The landscape position of PCT 1256 in the project footprint is therefore consistent with the landscape description of PCT 1256.While a midstorey was absent in the plots sampled, the plots sampled confirmed the presence of groundcover species diagnostic of PCT 1256, including *Carex gaudichaudiana, Juncus usitatus* and *Poa labillardierei* var. *labillardierei.*

PCT 1256 - Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	
	A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 638 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.5 and Table 6-15 of the BDAR, PCT 1256 in Low condition aligns to the BC Act listed Montane Peatlands and Swamps.
Photos	 **Photo 97. Low condition (photo taken at plot BY-057C)**
Number of plots sampled	Two plots were sampled within the Crookwell bioregion: Low condition: • BY-057C • YG0202FD

PCT 1330 - Yellow Box - Blakelys Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	
Vegetation formation	Grassy Woodlands
Vegetation class	Southern Tableland Grassy Woodlands
Conservation status	PCT 1330 aligns to the TEC White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed as a CEEC under the BC and EPBC Act.
% remaining in NSW	6
Extent	PCT 1330 occurs on loamy soils on undulating terrain between 500 and 900m on the tablelands.
Diagnostic canopy species for PCT 1330	The canopy can be diverse but is typically dominated by *Eucalyptus melliodora* (Yellow Box) and *Eucalyptus blakelyi* (Blakely's Red Gum). Other species present include *Eucalyptus bridgesiana* (Apple Box), *Eucalyptus dives* (Broad-leaved Peppermint), *Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus rubida* subsp. *rubida* (Candlebark), *Eucalyptus pauciflora* (White Sally), *Eucalyptus mannifera* (Brittle Gum) and *Eucalyptus viminalis* (Ribbon Gum).
Diagnostic midstorey species for PCT 1330	The midstorey is typically sparse with diagnostic species such as *Lissanthe strigosa* (Peach Heath) and *Melichrus urceolatus* (Urn Heath) present.
Diagnostic groundcover species for PCT 1330	The groundcover is typically dense with grass species such as *Bothriochloa macra* (Red Grass), *Microlaena stipoides* var. *stipoides* (Weeping Grass) and *Themeda triandra* (Kangaroo Grass). Other diagnostic species include *Lomandra filiformis* subsp. *coriacea* (Wattle Matt-rush), *Gonocarpus tetragynus* (Poverty Raspwort), *Goodenia hederacea* (Ivy Goodenia) and *Hydrocotyle laxiflora* (Stinking Pennywort).
Condition and presence of weeds	PCT 1330 occurs in the project footprint as five condition types: • Very low • Low • Moderate • High • Very high Exotic species are present throughout all of PCT 1330 in the project footprint, and are particularly dominant in the Very low and Low condition vegetation where exotic pasture grass is prevalent.
Justification of evidence used to identify the PCT	As mentioned above, PCT 1330 occurs on loamy soils on undulating terrain between 500 and 900m on the tablelands. The majority of the PCT in the project footprint occurs between 419-898 m asl, however there are small portions that occur under 418 m and over 899 m asl. The PCT in the project footprint occurs across twelve Mitchell Landscapes most are described as hills and plains (Rockley Plains, Gundary Plains, Dalton Hills, Wollondilly - Bindook Tablelands and Gorges, Boorowa Volcanics, Oberon - Kialla Granites, Gunning Hills, Marilba Range, Burrinjuck Ridges, Crookwell Basalts and Sands, Upper Lachlan Channels and Floodplains and Towrang Ranges). The landscape position of PCT 1330 in the project footprint is therefore generally consistent with the landscape description of PCT 1330.

PCT 1330 - Yellow Box - Blakelys Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	
	Diagnostic canopy species of PCT 1330 include *Eucalyptus melliodora, Eucalyptus blakelyi, Eucalyptus bridgesiana, Eucalyptus dives, Eucalyptus macrorhyncha, Eucalyptus rubida* subsp. *rubida, Eucalyptus mannifera* and *Eucalyptus viminalis,* all of which were the most common canopy species recorded in the plots sampled. The midstorey is mostly sparse, which is characteristic of PCT 1330. The diagnostic species *Lissanthe strigosa* and *Melichrus urceolatus* were recorded in a low abundance throughout the PCT. *Cassinia sifton* was recorded throughout most of the PCT, however this can be attributed to past and present land management practices as the species is known to be a pioneer species in disturbed areas. Plots sampled confirm the presence of groundcover dominated by grasses and recorded diagnostic species include *Bothriochloa macra, Microlaena stipoides* var. *stipoides, Themeda triandra, Lomandra filiformis* subsp. *coriacea, Gonocarpus tetragynus, Goodenia hederacea* and *Hydrocotyle laxiflora*. A full species list for all surveyed plots is found in Appendix 5 and the extent of PCT 1330 within the project footprint is shown in Figure 6-1.
How it meets the BC Act Determination	As outlined in Section 6.5.1 and Table 6-10 of the BDAR, PCT 1330 in Very low, Low, Moderate, High and Very high condition aligns to the BC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
How it meets the EPBC Act Determination	As outlined in Section 6.5.1 and Table 6-11 of the BDAR, PCT 1330 in Moderate, High and Very high condition aligns to the EPBC Act listed White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland.
Photos	 **Photo 98. Very low condition native grassland (photo taken at plot BY066A52)**

PCT 1330 - Yellow Box - Blakelys Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Photo 99. Low condition woodland (photo taken at plot BY1004EA)

PCT 1330 - Yellow Box - Blakelys Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Photo 100. Moderate condition woodland (photo taken at plot BY113010D2)

Photo 101. High condition woodland (photo taken at plot BY143551)

PCT 1330 - Yellow Box - Blakelys Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Photo 102. Very high condition woodland (photo taken at plot BY11154F)

Number of plots sampled

Forty-eight plots were sampled within the Crookwell, Bungonia and Murrumbateman bioregions:

Very low condition:

- BY066A52
- BY0651CB
- BY065325
- BY122021B6
- BY11301346
- BY11301ADB

Low condition:

- BY1004EA
- BY-049E
- BY-014G
- BY001CF1
- BY008-D
- BY006-B
- BY006-A
- BY130193A7
- BY13012976
- BY115602
- BY115016
- BY100142
- BY130029A6
- BY05708A

Moderate condition:

- BY13019B24
- BY13019757
- BY13011940
- BY113010D9
- 6699ABB3
- BY13001091
- BY113010D2

High condition:

PCT 1330 - Yellow Box - Blakelys Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion			
	• BY143551 • BY128F52 • BY1117D0 • BY103-A • BY098822	• 511MP001 • 511MP004 • BY06703F9B • BY099CD1	• BY0996BD • BY098179 • BY0991C2 • BY06703F
	Very high condition: • BY016CE4 • BY01640F • BY-016A • BY-014E	• BY006-C • 6699ABB1 • BY11154F • BY008-B	

Attachment 11. Planted native vegetation streamlined assessment module

Throughout the project footprint, there are approximately 48 hectares of mapped planted native vegetation. This vegetation is largely planted along the boundaries of paddocks, for the purposes of windbreaks within agricultural landscapes. Planted native vegetation occurs in five of the six IBRA subregions that comprise the project footprint:

- Inland slopes
- Bondo
- Crookwell
- Bungonia
- Murrumbateman.

Assessment against Appendix D1 of the BAM indicates planted native vegetation within the project footprint is consistent with Question 5 of the decision-making key (refer to Table A11- 1).

Planted native vegetation was assessed through a combination of ground truthing and aerial photo interpretation. For areas that were not ground-truthed (due to access limitations), planted native vegetation was identified through aerial photography, indicated by linear strips of vegetation of even age, often concentrated along paddock edges or as rectangular patches. Table A11- 2 provides an overview of planted native vegetation identified within the project footprint, the location of plantings in reference to Figure 4-1 and the level of field assessment undertaken at each location.

The planted Native Vegetation present within the project footprint consists predominantly of planted rows of Eucalypt, Casuarina and Acacia species, as well as exotic *Pinus* and *Cuppressus* species, occurring above an exotic groundcover. Where present, tree species were generally young and lacked hollows or other signs of fauna occupation (ie nests). No other key habitat features were present within the areas of planted native vegetation (ie rock outcrops, fallen timber, significant accumulations of leaf litter, aquatic environments). Field assessments undertaken indicate a general lack of habitat for candidate threatened species within the planted windbreaks. Furthermore, no incidental sightings or evidence (eg scats, stick nests) of candidate threatened species occupation was noted. Planted Native Vegetation not subject to field assessment is considered consistent with other planted vegetation occurring within the project footprint and is unlikely to support candidate threatened species or their habitats.

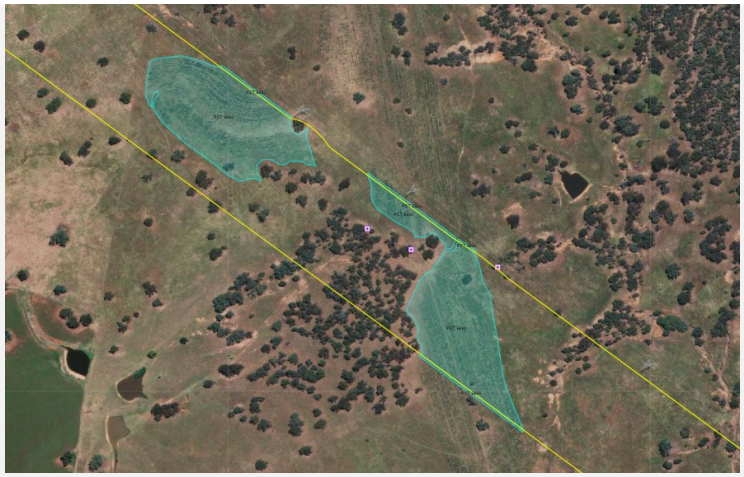
As no threatened species were observed, indicated or considered likely to use the planted native vegetation as habitat, the proposed clearing of planted vegetation within the project footprint does not need to address section 8.4 of the BAM (mitigate and manage impacts on biodiversity values). Furthermore, offsets for any ecosystem or species credits are not required.

Table A11- 1: Planted native vegetation streamlined assessment module decision-making key (DPIE, 2020)

Decision making key		Response
1	Does the planted native vegetation occur within an area that contains a mosaic of planted and remnant native vegetation and which can be reasonably assigned to a PCT known to occur in the same IBRA subregion as the proposal?	**No** The areas mapped as planted native vegetation generally occur as rows of Eucalyptus, Melaleuca, or Acacia, with limited structural complexity (often lacking a shrub layer), exotic understorey and limited natural resilience. Remnant vegetation was generally absent from areas mapped as planted Native Vegetation.
2	Is the planted native vegetation: a. planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.), and b. the primary objective was to replace or regenerate a plant community type or a threatened plant species population or its habitat?	**No** From review of aerial photographs and ground truthing, areas mapped as planted Native Vegetation appear to be mostly acting as windbreaks within an agricultural landscape. The plantings were not likely to have been required for the purpose of environmental rehabilitation or restoration under an existing conservation agreement or to replace or regenerate a plant community type or a threatened plant species population or habitat.
3	Is the planted/translocated native vegetation individuals of a threatened species or other native species planted/translocated for the purpose of providing threatened species habitat under one of the following: a. a species recovery Project b. Saving our Species Project c. other types of government funded restoration Project d. condition of consent for a development approval that required those species to be planted or translocated for the purpose of providing threatened species habitat e. legal obligation as part of a condition or ruling of court. This includes regulatory directed or ordered remedial plantings (e.g. Remediation Order for clearing without consent issued under the BC Act or the Native Vegetation Act) f. ecological rehabilitation to re-establish a PCT or TEC that was, or is carried out under a mine operations plan, or g. approved vegetation management plan (e.g. as required as part of a Controlled Activity Approval for works on waterfront land under the NSW Water Management Act 2000)?	**No** The plantings are not likely to have been required for any of the above listed purposes. As stated above, it appears that the areas mapped as planted native vegetation appear to be mostly acting as windbreaks within an agricultural landscape.
4	Was the planted native vegetation (including individuals of a threatened flora species) undertaken voluntarily for revegetation, environmental rehabilitation or restoration without a legal obligation to secure or provide for management of the native vegetation?	**Unlikely** Given the location of the plantings, it is more likely that these planting were established for the purpose of a windbreak within an agricultural landscape, as detailed in question 5 below.
5	Is the native vegetation (including individuals of a threatened flora species) planted for functional, aesthetic, horticultural or plantation forestry purposes? This includes examples such as: windbreaks in agricultural landscapes, roadside plantings (including street trees, median strips, roadside batters), landscaping in parks, gardens and sport fields/complexes, macadamia plantations or teatree farms?	**Yes** The areas of planted native vegetation generally occur as linear strips of vegetation of even age, often concentrated along paddock edges. Presumably, the primary purpose of these areas is to act as a windbreak within an agricultural landscape.

Table A11- 2: Planted native vegetation within the project footprint

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
3	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
4	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
6	Planted native vegetation –planting rows can be clearly seen in aerial photo.	Desktop only	
8	Planted native vegetation, occurring as windbreaks in rectangular patches.	Desktop only	

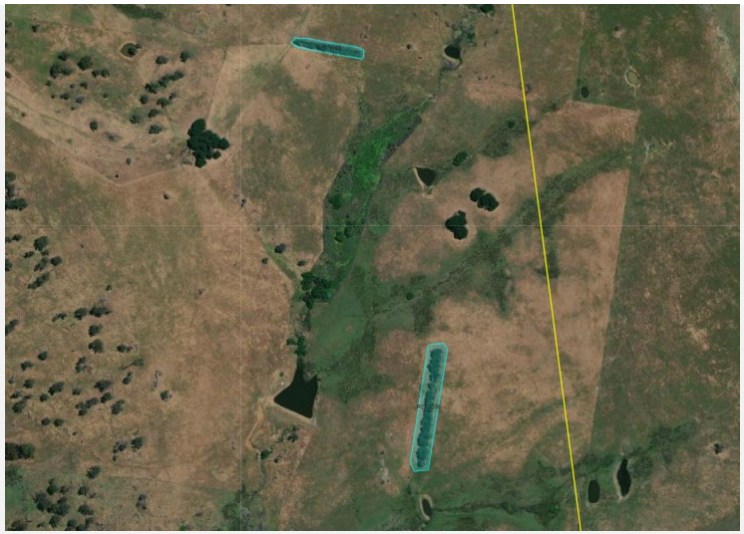
Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
8	Planted vegetation (exotic cypress [*Cupressus sp.*]) with three *Casuarina glauca* (Swamp Sheoak).	Rapid Data Point (RDP) and walking meander	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
8	Planted semi-mature vegetation, with exotic understorey.	RDP and walking meander	

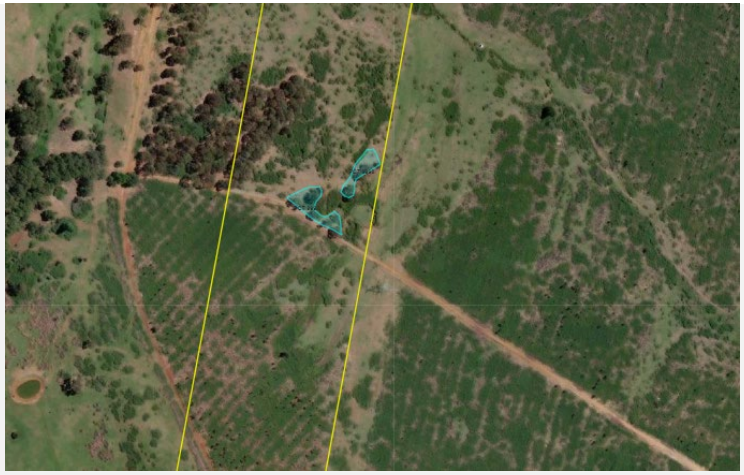
Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
8	Planted monoculture windbreak of *Eucalyptus polyanthemos* (Red Box), with exotic understorey.	RDP and walking meander	

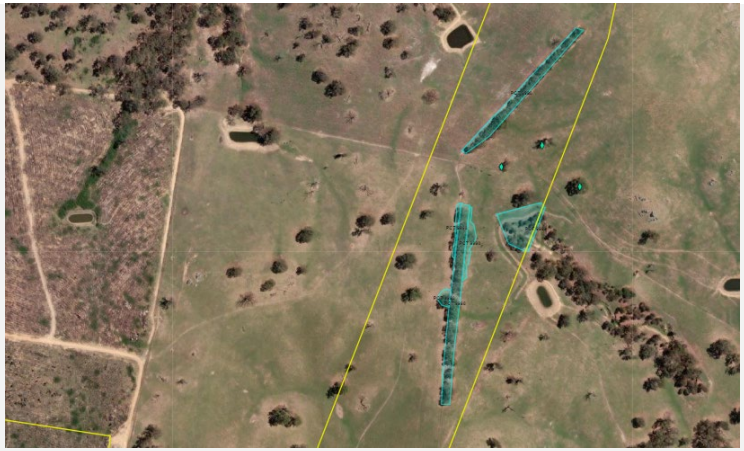
Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
8	Planted monoculture windbreak of *Casuarina glauca*, with exotic understorey.	RDP and walking meander	
9	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
12	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
22	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
39	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
41	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
42	Planted vegetation in wind break, with exotic understorey. The vegetation, which is approximately 10yrs old, includes *Melaleuca styphelioides* (Prickly-leaved Tea Tree), *Eucalyptus camaldulensis* (River Red Gum), *Eucalyptus melliodora* (Yellow Box).	RDP and walking meander	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
42	Planted native vegetation. Dominant canopy species include *Melaleuca styphelioides* (Prickly-leaved Tea Tree), *Eucalyptus cinerea* (Argyle Apple) and *Eucalyptus melliodora* (Yellow Box), with *Casuarina cunninghamiana* (River Oak), *Eucalyptus camaldulensis* (River Red Gum), *Acacia melanoxylon* (Blackwood)occurring as a subdominant canopy.	RDP and walking meander	Refer to vegetated strip above the fenceline
52	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
53	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
54	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
56	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
62	Planted native vegetation, occurring as windbreaks along paddock edges and in vicinity of dwelling.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
52	Planted vegetation dominated by *Liquidambar styraciflua* (Sweetgum)*, Eucalyptus globulus, Cupressus sempervirens* (Italian Cypress), with *Eucalyptus nicholii* (Narrow-leaved Black Peppermint) and *Eucalyptus blakelyi* (Blakely's Red Gum) occurring less frequently.	RDP and walking meander	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
63	Planted vegetation, dominated by a canopy of *Eucalyptus polyanthemos* (Red Box) and *Eucalyptus melliodora* (Yellow Box), a midstorey of *Acacia dealbata* (Silver Wattle), and *Phalaris aquatica* (Phalaris), *Rumex acetosella* and *Themeda triandra* in the understorey.	RDP and walking meander	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
63	Planted vegetation, dominated by *Eucalyptus blakelyi* (Blakely's Red Gum), *Eucalyptus polyanthemos* (Red Box) and *Eucalyptus melliodora* (Yellow Box).	RDP and walking meander	

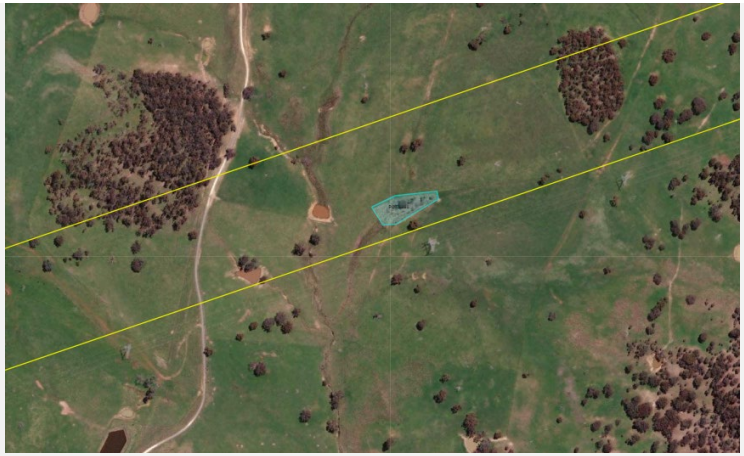
Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
63	Planted vegetation, dominated by a canopy of *Eucalyptus camaldulensis* (River Red Gum) and *Eucalyptus viminalis* (Ribbon Gum) with *Casuarina glauca* (Swamp Oak) occurring less frequently; a midstorey of *Leptospermum* spp. (Tea-tree), *Acacia floribunda* (White Sally) and *Callistemon* spp., and an understorey dominated by *Phalaris aquatica* (Phalaris).	RDP and walking meander	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
66	Planted vegetation	RDP and walking meander	 Refer to scattered shrubs along the fenceline

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
66	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
70	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

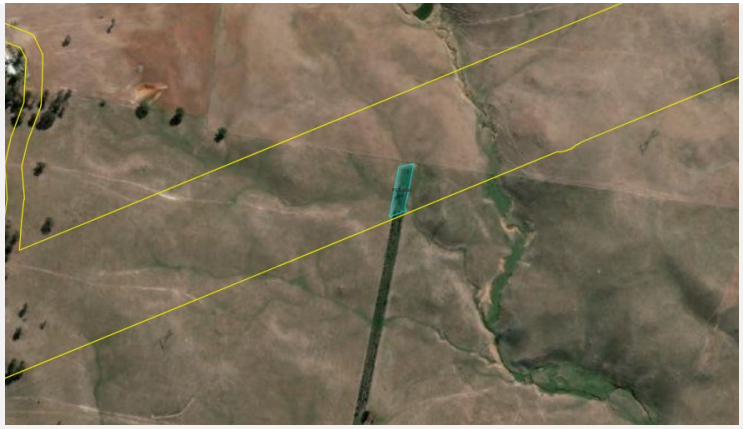
Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
70	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
71	Roadside planting.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
80	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
81	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

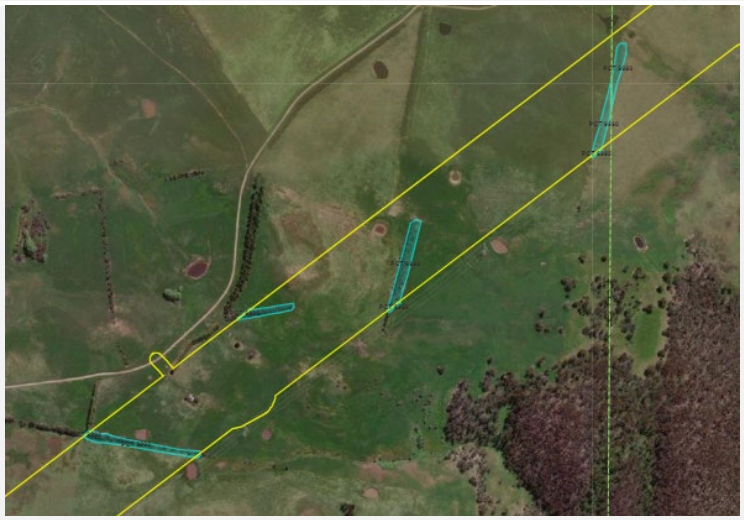
Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
83	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
86	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
87	Planted native vegetation, occurring as windbreaks along paddock edges.	Threatened flora random meander.	
88	Planted native vegetation, occurring as windbreaks along paddock edges. Planted shelter belt: *Hakea dactyloides, Callistemon rigidus, Acacia melanoxylon, E. viminalis, E. ovata.*	RDP x 2 and walking meander.	
88	Planted native vegetation, occurring as windbreaks along paddock edges.	Threatened flora random meander.	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
88	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
89	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
90	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
91	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
92	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
93	Planted native vegetation, occurring as windbreaks along paddock edges.	RDP and walking meander	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
95	Planted native vegetation, occurring as windbreaks along paddock edges.	RDP and walking meander	
101	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
105	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	
105	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Map Ref Figure 4-1	Description (incl. habitat features)	Survey effort	Photo/aerial (Note: yellow boundary= project footprint; blue= planted native vegetation)
106	Planted native vegetation, occurring as windbreaks along paddock edges.	Desktop only	

Attachment 12: Threatened species habitat mapping and polygon development

This attachment documents the approach to species polygon development, White-bellied Sea-eagle waterway assessment, and threatened flora count estimates.

1. Species polygon development

Broadly, a three-step process was applied to produce final species polygons for candidate threatened flora and fauna species under BAM 2020 for the Humelink project. This comprised:

1. habitat mapping
2. review of targeted survey effort and results
3. finalisation of polygons.

1.1 Habitat mapping

Suitable habitats were mapped for candidate species using a stepwise process (as outlined below) and adopting the criteria outlined within Table A12- 3 and Table A12- 4 for each relevant species. An iterative mapping process was adopted. Initially, habitat maps were generated using publicly available datasets, such as State Vegetation Mapping, to inform priorities for targeted survey. As field data became available, habitat mapping was further refined to incorporate the ground-truthed site specific data. Supplementary mapping was also completed to support the identification of habitat constraints within inaccessible lands, using the methods outlined in Section 4.10.2 of the BDAR. The mapping approach applied is as follows:

- Vegetation zones constituting associated PCTs according to the TBDC were identified and non-associated PCTs excluded
- Geographic constraints as listed within the TBDC were determined spatially and relevant areas excluded
- Patch size was assigned to each vegetation polygon and areas excluded where vegetation polygons did not meet the patch size threshold for the candidate species, as per the TBDC
- A surrounding native woody vegetation cover score was calculated and the relevant category (<10%, 10-30%, 31-70%, >70%) assigned to each vegetation polygon based on woody vegetation mapped within 500 m of each polygon. Native vegetation cover was not applied as a filter to remove candidate species from the assessment (as per Section 5.2.1 Step 1 of the BAM). Rather, native vegetation cover was used to inform the extent of suitable habitat which species are likely to occupy. Vegetation polygons that did not meet the vegetation cover threshold for a species were considered degraded (in accordance with Section 5.2.3 Step 3 of the BAM and Section 4.4.3 of the BAM 2020 Ops Manual) and were removed from the species polygons. Species affected by this step are the 18 fauna species in section 4.2 with a native cover prescription of >10%.
- Habitat constraints as listed within the TBDC for relevant species were interpreted and applied using a mixture of field collected and other available data in consultation with the BCD where considered required for particular species. Habitat constraints that were applied as a filter for candidate species included:
    - waterbodies, riparian areas and drainage lines
    - cliffs
    - karst areas
    - rocky areas
    - hollow presence/ absence and associated hollow size class or other prescription (e.g. hollows greater than 20 centimetres diameter)

Where appropriate data was not available all potential habitat was retained (e.g. if trees were present as determined from aerial photography, but on-ground habitat mapping was not undertaken, then hollow trees of all size classes were assumed present

- Degraded habitats were defined and excluded where degradation resulted in necessary microhabitats for particular candidate species being absent. Where relevant, degraded habitats generally corresponded with:
    - low and very low condition PCTs subject to significant land use disturbance as a result of historical clearing, cropping and intensive grazing practices
    - vegetation that was under-scrubbed or lacking a native understorey
    - Category 1 lands and scattered trees completely enveloped by these lands.

1.2 Survey effort review

Following completion of the field survey program, a review of targeted survey effort, timing (seasonality) and results was undertaken for each species to further reduce the extent of mapped species polygons. This assessment did not apply to candidate species that were not subject to targeted survey or for which very limited survey was undertaken (refer to 2 and 3). Survey effort was reviewed for candidate flora and fauna species as outlined below.

- **Threatened flora**:
    - Flora grid searches (20m radius) and BAM plot locations were overlayed with mapped habitat (as described in Section 1.1) for each candidate flora species. The species was considered absent within that specific survey area where all of the below statements were true:
        - Surveys were undertaken within the appropriate season
        - The candidate species was targeted
        - A minimum survey effort of one flora survey per hectare of habitat was achieved
        - The target flora species was not directly recorded.
    - Buffered parallel transect polylines were then overlayed with remaining habitat areas and those areas excluded where targeted species were not recorded during the appropriate survey season. The extent of the buffer used for transects was informed by relevant survey guidelines based on the species lifeform and density of vegetation.
    - Mapped habitats for which the species was considered absent due to meeting the survey requirements were excluded from the species polygons.
    - Where a threatened flora species was recorded, a 30 metre buffer was applied to the point or polygon record. These areas were incorporated into the final species polygons.

Figure A12- 1: Examples of survey effort adequacy approach for threatened flora: areas inside of the green boxed areas (for survey points where concentration was > 1 point/ha) or blue shaded areas (for survey transects) were considered adequately surveyed depending on survey timing and target species

- **Threatened fauna**:
    - Survey effort was assessed across survey units established within mapped habitat (as described in Section 1.1) inside the project footprint.
    - The survey unit for most species including birds, bats (except Southern Myotis), mammals and reptiles, comprised a combination of Mitchell Landscape and vegetation formation. For example, one survey unit was: Dry Sclerophyll Forest (vegetation formation) within the Adelong Granite Ranges (Mitchell Landscape). Table A12 -1 outlines the survey unit applied for each target fauna group. An example of each unique fauna survey unit is shown below in Figure A12-1 and Figure A12- 2.
    - The survey unit for frogs and the Southern Myotis, comprised individual streams (2nd order and above since 1st order streams did not contain sufficient pools) with a buffer applied as per the TBDC (eg 200 metres for Southern Myotis).
    - The extent of suitable habitat within each survey unit was calculated in hectares to inform the total survey requirements according to relevant survey guidelines. For example, survey prescriptions for Southern Myotis include a minimum of 16 trap nights over 4 separate nights for every 2.5 kilometres of stream length (equivalent to 50 hectares when buffered by 200 metres). This was scaled appropriately (eg - where a survey unit supports 5 kilometres of stream, the survey requirement is multiplied by two). Table A12 -1 outlines the survey effort requirements applied to each survey unit for each fauna group.
    - Where survey requirements for targeted species were met for a survey unit, the species was considered absent unless directly recorded, in which case the entire survey unit was retained within the species polygon. Mapped habitats for which the species was considered absent based on meeting the survey requirement within a unit were excluded from the species polygons.
    - Mapped habitats occurring within 100m of a confirmed record where documented as recorded habitat within Section 7.3.3 of the BDAR.

Given survey access and seasonality constraints, the majority of mapped habitats have been retained for each candidate species. Survey units and requirements outlined in Table A12- 1 will be reviewed to further revise species polygons based on expert advice and additional surveys.

Figure A12- 2: Example of survey units for frogs and Southern Myotis

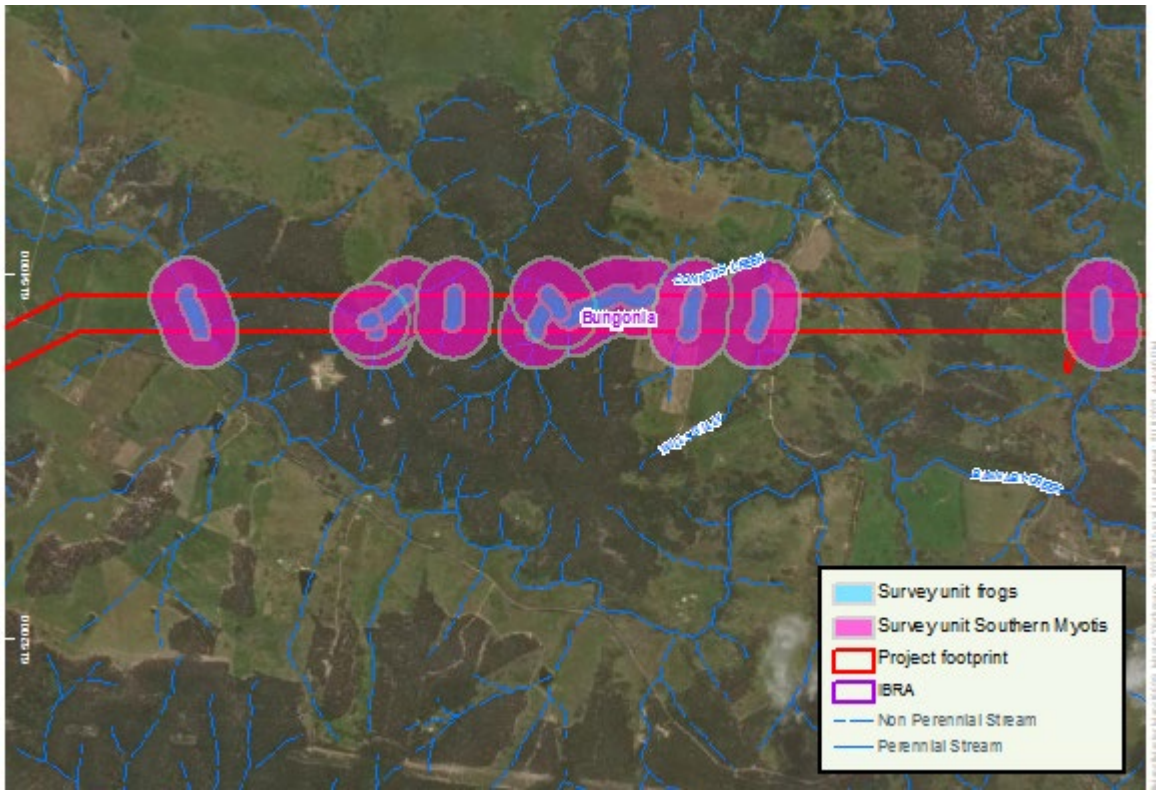


Figure A12- 3: Example of survey units for all other threatened fauna

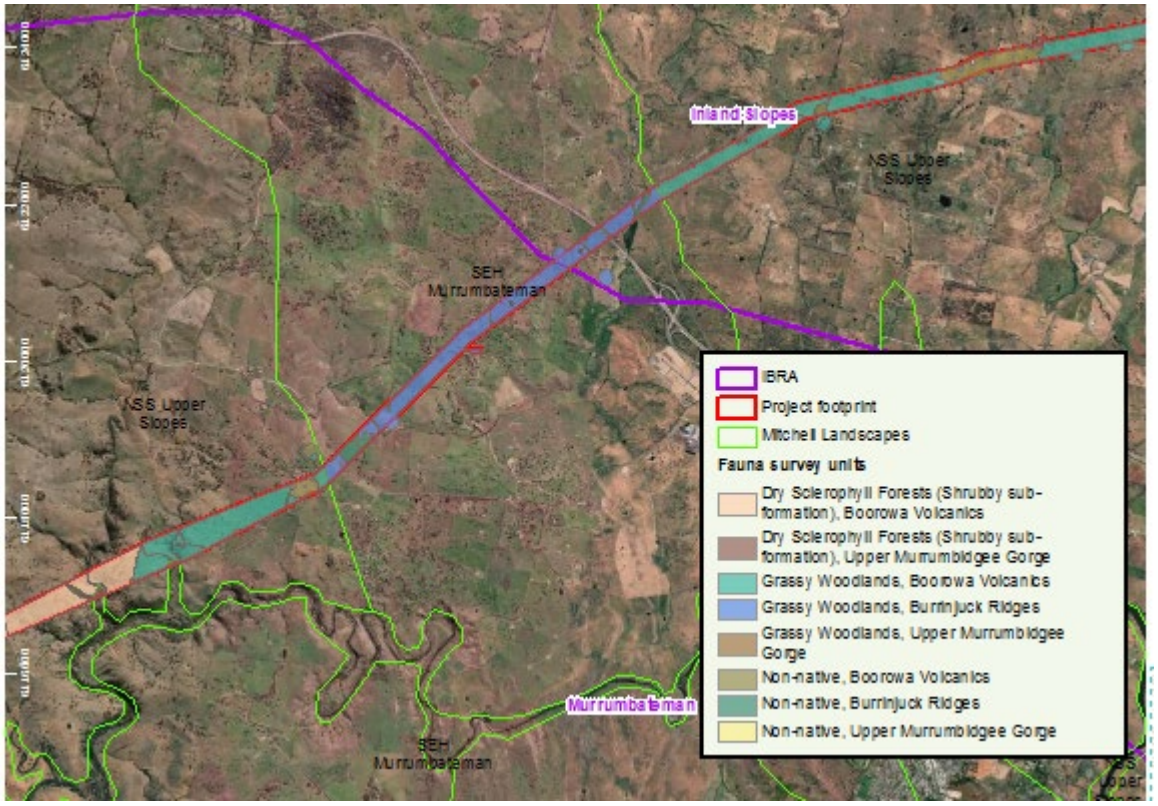


Table A12- 1: Fauna survey effort requirements

Scientific name	Common name	Survey unit	Survey method	Survey effort requirement per survey unit
Amphibians				
Crinia sloanei	Sloane's Froglet	Strahler 2nd order and above, 0.5km length, 50m Buffer	Frog census	Total 480 mins over at least 4 days
Litoria castanea	Yellow-spotted Tree Frog	Strahler 2nd order and above, 0.5km length, 50m Buffer	Frog census	Total 480 mins over at least 4 days
Mixophyes balbus	Stuttering Frog	Strahler 2nd order and above, 0.5km length, 50m Buffer	Frog census	Total 480 mins over at least 4 days
Pseudophryne corroboree	Southern Corroboree Frog	Strahler 2nd order and above, 0.5km length, 50m Buffer	Frog census	Total 480 mins, at least 4 survey points
Bats				
Chalinolobus dwyeri	Large-eared Pied Bat	Mitchell Landscape and Veg Formation	Bat recorder	At least 16 trap nights total per 50 ha
			Harp trap	At least 16 trap nights per 50 ha
Miniopterus orianae oceanensis	Large Bent-winged Bat	Mitchell Landscape and Veg Formation	Bat recorder	At least 16 trap nights total per 50 ha
			Harp trap	At least 16 trap nights per 50 ha
Myotis macropus	Southern Myotis	Strahler 2nd order and above, 2.5km length, 200m Buffer	Bat recorder	16 trap nights per 50 ha
			Harp trap	16 trap nights per 50 ha
Birds				
Burhinus grallarius	Bush Stone-curlew	Mitchell Landscape and Veg Formation	Call playback	At least 5 surveys per 200 ha
Callocephalon fimbriatum	Gang-gang Cockatoo	Mitchell Landscape and Veg Formation	Bird survey 2ha	Total 12 hours over at least four days per 50 ha
Calyptorhynchus lathami	Glossy Black-Cockatoo	Mitchell Landscape and Veg Formation	Bird survey 2ha	Total 12 hours over at least four days per 50 ha
Hieraaetus morphnoides	Little Eagle	Mitchell Landscape and Veg Formation	Bird survey 2ha	Total 12 hours over at least four days per 50 ha
Lophoictinia isura	Square-tailed Kite	Mitchell Landscape and Veg Formation	Bird survey 2ha	Total 12 hours over at least four days per 50 ha
Ninox connivens	Barking Owl	Mitchell Landscape and Veg Formation	Call playback	at least 5 surveys per 200 ha
Ninox strenua	Powerful Owl	Mitchell Landscape and Veg Formation	Call playback	at least 5 surveys per 200 ha
Petroica rodinogaster	Pink Robin	Mitchell Landscape and Veg Formation	Bird survey 2ha	Total 12 hours over at least four days per 50 ha
Polytelis swainsonii	Superb Parrot	Mitchell Landscape and Veg Formation	Bird survey 2ha	Total 12 hours over at least four days per 50 ha

Scientific name	Common name	Survey unit	Survey method	Survey effort requirement per survey unit
Tyto novaehollandiae	Masked Owl	Mitchell Landscape and Veg Formation	Call playback	at least 8 surveys per 200 ha
Tyto tenebricosa	Sooty Owl	Mitchell Landscape and Veg Formation	Call playback	at least 6 surveys per 200 ha
Marsupials				
Cercartetus nanus	Eastern Pygmy-possum	Mitchell Landscape and Veg Formation	Camera trap	100 nights for 50 ha (at least 8 cameras). The same effort for every additional 100 ha.
			Hair tube	20 tubes over at least four days per 50 ha
Petauroides volans	Greater Glider	Mitchell Landscape and Veg Formation	Elliot transect	100 trap nights per 50 ha
			Spotlighting	4 hours over at least two nights per 100 ha
Petaurus norfolcensis	Squirrel Glider	Mitchell Landscape and Veg Formation	Camera trap	100 nights for 50 ha (at least 8 cameras). The same effort for every additional 100 ha.
			Elliot transect	100 trap nights per 50 ha
			Hair tube	20 tubes over at least four days per 50 ha
			Spotlighting	5 hours over at least two nights per 100 ha
Petrogale penicillata	Brush-tailed Rock-wallaby	Mitchell Landscape and Veg Formation	Camera trap	100 nights for 50 ha (at least 8 cameras). The same effort for every additional 100 ha.
Phascolarctos cinereus	Koala	Mitchell Landscape and Veg Formation	Spotlighting	5 hours over at least two nights per 100 ha
Reptiles				
Aprasia parapulchella	Pink-tailed Legless Lizard	Mitchell Landscape and Veg Formation	Reptile search	Total 2 hours over at least 4 days per 50 ha
Cyclodomorphus praealtus	Alpine She-oak Skink	Mitchell Landscape and Veg Formation	Reptile search	Total 2 hours over at least 4 days per 50 ha
Rodents				
Mastacomys fuscus	Broad-toothed Rat	Mitchell Landscape and Veg Formation	Camera trap	100 nights for 50 ha (at least 8 cameras). The same effort for every additional 100 ha.
Pseudomys fumeus	Smoky Mouse	Mitchell Landscape and Veg Formation	Camera trap	100 nights for 50 ha (at least 8 cameras). The same effort for every additional 100 ha.

1.3 Impact assessment and final species polygon development

Remaining mapped habitat (after survey effort review described above) was clipped to the indicative disturbance area to provide the final species polygons.

2. White-bellied Sea-eagle waterway assessment

A desktop-based habitat assessment for the White-bellied Sea-eagle was undertaken to identify any large perennial streams or waterbodies that may support species across all IBRA subregions traversed by the project footprint.

A review of the species habitat and ecology was completed to determine key defining habitat characteristics, including information held in the TBDC, augmented by field observations by the Niche team of foraging/nesting activity by the species in inland waterways. This information was used to guide a desktop assessment of waterways and waterbodies intersected by the project footprint. This review utilised high-resolution aerial imagery, waterway and waterbody layers, Strahler stream order mapping, field-based aquatic habitat assessments and photo recording. Farm dams were excluded from the assessment, with major dams and water storages included in the assessment.

A total of 22 major waterways and waterbodies intersecting the project footprint were identified as having the potential to support the White-bellied Sea-eagle. These major waterways typically had a stream order greater than or equal to five, were perennial, with flowing reaches or elongated long pools with a high degree of longitudinal connectivity, generally with an average wetted stream width of approximately ten metres or greater. These features were used to inform selection where the assessment was limited by the resolution of aerial imagery or field assessment coverage. Major waterways and waterbodies intersecting with the project footprint that may support habitat for the White-bellied Sea-eagle are outlined below including stream orders to identify the relevant sections:

- Tarlo River (5)
- Middle Creek (5)
- Lachlan River (6)
- Jerrawa Creek (5)
- Derringullen Creek (5)
- Bowning Creek (5)
- Murrumbidgee Creek (9)
- Oak Creek (5)
- Adjungbilly Creek (6)
- Pejar Dam (-)
- Brungle Creek (5)
- Tumut River (8)
- Gocup Creek (4)
- Sandy Creek (5)
- Gilmore Creek (6)
- Adelong Creek (5)
- Yaven Creek (5)
- Tarcutta Creek (6)
- Umbango Creek

- Keajura Creek (6)
- Kyeamba Creek (7)
- O'Briens Creek (5).

3. Threatened flora count estimates

There are ten 'count species' recorded or assumed to be present within the project footprint. These species generate species credits based on the number of individuals recorded within areas of identified habitat. As per the Guideline for Surveying threatened plants and their habitats (DPIE 2020c), when a 'count of individual' species is assumed present, the number of individuals (single mature organisms as defined by BAM 2020) likely to be present within the project footprint will need to be estimated (eg based on reference sites). The approach to generate population estimates must be evidence-based and clearly documented in the BDAR.

Two 'count' threatened flora species were directly recorded within the project footprint: Ammobium craspedioides (Yass Daisy) and Leucochrysum albicans var. tricolor (Hoary Sunray). Survey data comprising counts of all individuals (ie not limited to consideration of mature versus immature individuals) within known habitat areas of the project footprint were applied to mapped potential habitat by means of the below methodology (Steps 1 to 4) to directly inform count estimates across areas not surveyed.

For other count threatened flora species for which presence has been assumed, the BCD provided advice on 8 March 2023 (via email) to inform count estimates. Given the estimates provided were based on population counts from within known sites only, it is reasoned that a provision for significant patches of unoccupied habitat in between areas of occupied habitat has not been made. In the context of the HumeLink project and other long linear developments, it is a certainty that large patches of non-occupied habitat between any known patches will be the dominant feature, which is reinforced by the number of surveys completed that did not result in the positive detection of relevant 'count' species target flora species. Step 1 of the below method accounts for inclusion of non-occupied habitat.

The methodology applied to obtain estimates for count threatened flora species directly impacted by the Humelink project incorporated four key steps, as detailed further below.

Step 1: Threatened flora strike rate: A threatened flora strike rate was calculated for each count flora species using the below formula. For threatened flora directly recorded, the total number of targeted surveys completed for each species (in accordance with guideline requirements) was reviewed to obtain the proportion of surveys (within mapped habitat) from which the target species was detected (ie a strike rate). For threatened flora that were not encountered during relevant targeted survey the strike rate was obtained by assuming a single positive detection occurred during all surveys performed.

$$Threatened\ flora\ strike\ rate = \frac{number\ of\ targeted\ surveys\ with\ positive\ detection}{total\ number\ of\ targeted\ surveys} \times 100$$

Step 2: Extent of occupied habitat: The threatened flora strike rate obtained for each count species was then multiplied by the total extent of potential habitat available for that species within the indicative disturbance footprint (ie subject to direct impacts). This was undertaken to obtain an estimate of the proportion of impacted habitat likely to be occupied by the species. The following equation was applied for each flora count species:

$$Occupied\ habitat\ (ha) = Potential\ habitat\ (ha) \times threatened\ flora\ strike\ rate$$

Step 3: Estimate count per hectare**:** A per hectare count estimate was obtained for two threatened flora species directly recorded within the project footprint using the below formula and survey data: *Ammobium craspedioides* (Yass Daisy) and *Leucochrysum albicans var. tricolor* (Hoary Sunray). For all other count flora species for which presence is assumed, a density estimate was obtained based on BCD advice provided.

$$Estimated\ count\ per\ hectare = \frac{average\ number\ of\ plants\ detected\ per\ positive\ survey}{occupied\ area\ (ha)}$$

Again, no allowance was made for the presence of immature individuals despite it being highly likely that these contributed towards count estimates provided by the BCD and are not required to be considered under BAM 2020.

Step 4: Final count estimate: The per hectare count estimate obtained for each species was multiplied by the total calculated extent of predicted habitat to provide a final count estimate for each count threatened flora species subject to direct impacts. The final count estimate obtained for each species formed the basis for the impact assessment and offset calculations for the project.

$$Final\ count\ = estimated\ count\ per\ hectare \times extent\ of\ predicted\ habitat$$

The following species had a total estimated count of one individual but suitable habitats included multiple vegetation zones:

- *Eucalyptus aggregata* (Black Gum)
- *Eucalyptus alligatrix subsp. alligatrix*
- *Eucalyptus cannonii* (Capertee Stringybark)
- *Eucalyptus robertsonii subsp. hemisphaerica* (Robertson's Peppermint)
- *Eucalyptus cannonii* (Capertee Stringybark).

With the exception of *Eucalyptus cannonii*, associated vegetation zones were generally less than 0.5 ha for each species. To avoid a significant overestimate of counts, a count of one individual was added to the largest vegetation zone only. For *Eucalyptus cannonii* (Capertee Stringybark), a count of one individual was conservatively assigned to all three vegetation zones for the species.

Table A12- 2 Final flora species count estimates

Scientific name	Common name	IBRA subregion	Step 1: Threatened flora strike rate (%)	Step 2: Extent of occupied habitat (ha)	Step 3: Estimated count/ ha	Step 4: Final count estimate	BCD advice
Acacia phasmoides	Phantom Wattle	Inland Slopes	1.43	0.01	123.5	1.48 (rounded to two individuals)	No advice was provided by the BCD for this species. In the absence of any guidance, the estimate of individuals per hectare for *Grevillea iaspicula* was assumed for this species.
Ammobium craspedioides	Yass Daisy	Crookwell, Murrumbateman, Inland Slopes, Bondo	0.98	2.35	801	1,168	The third equation above was used to generate the estimated number of individuals per hectare.
Eucalyptus aggregata	Black Gum	Crookwell, Murrumbateman, Inland Slopes	0.1	0.003	13	0.02 (rounded to 1 individual)	As per BCD's advice, Field (2008) recorded the largest population of *Eucalyptus aggregata* as 13 reproductive individuals per hectare. The definition of an individual within the BAM is: "Individual: in relation to organisms, a single, mature organism that is a threatened species, or any other threatened species listed under Part 13 of the EPBC Act." Given this, 13/ha has been applied.
Eucalyptus alligatrix subsp. *alligatrix*	-	Inland Slopes	0.24	0.005	30	0.08 (rounded to 1 individual)	The BCD provided a range of 10/ha – 30/ha depending on the vegetation condition (the higher the condition the higher the number of individuals). Whilst the potential habitat in the project footprint ranges in condition, a conservative approach has been applied and assumed 30 individuals per hectare.
Eucalyptus cannonii	Capertee Stringybark	Inland Slopes	0.24	0.03	30	0.34 (rounded to 1 individual)	The BCD provided a range of 10/ha – 30/ha depending on the vegetation condition (the higher the condition the higher the number of individuals). Whilst the potential habitat in the project footprint ranges in condition, a conservative approach has been applied and assumed 30 individuals per hectare.
Eucalyptus macarthurii	Paddy's River Box	Bungonia	1.05	0.17	170	18	The BCD provided an estimate of 170/ha, this number was applied in the calculations.

Scientific name	Common name	IBRA subregion	Step 1: Threatened flora strike rate (%)	Step 2: Extent of occupied habitat (ha)	Step 3: Estimated count/ ha	Step 4: Final count estimate	BCD advice
Eucalyptus robertsonii subsp. *hemisphaerica*	Robertson's Peppermint	Crookwell	0.48	0.01	20	0.03 (rounded to 1 individual)	The BCD provided a range of 10/ha – 20/ha depending on the vegetation condition (the higher the condition the higher the number of individuals). Whilst the potential habitat in the project footprint ranges in condition, a conservative approach has been applied and assumed 30 individuals per hectare.
Grevillea iaspicula	Wee Jasper Grevillea	Murrumbateman	0.25	0.12	123.5	9	The BCD provided an average estimate of 123.5/ha, this number was applied in the calculations.
Leucochrysum albicans var. *tricolor*	Hoary Sunray	Bungonia, Crookwell, Murrumbateman, Inland Slopes, Bondo, Snowy Mountains	1.28	3.90	31014.6	17,096	The BCD provided a range for this species of 37,500/ha - 103,000/ha. However, surveys within the project footprint recorded 184 locations with *Leucochrysum albicans* var. *tricolor*. Given this, it was assumed the recorded numbers within the project footprint would be more accurate than an estimate that may be based on stewardship and/or conservation sites.
Rutidosis leiolepis	Monaro Golden Daisy	Snowy Mountains	1.67	0.0025	84,052	350	The BCD provided an estimate of 84,052/ha, this number was applied in the calculations.

4. Habitat mapping criteria

4.1 Threatened flora

Table A12- 3: Habitat mapping criteria for candidate threatened flora

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Acacia ausfeldii	Ausfeld's Wattle	V	-	-	PCT 266 and 276	Inland Slopes; Murrumbateman	None	Foot slopes and low rises on sandstone	N/A	N/A	None	Low and Very low condition
Acacia bynoeana	Bynoe's Wattle	E	V	-	PCT 1093	Bungonia; Crookwell	None	None	N/A	N/A	None	Low and Very low condition
Acacia clunies rossiae	Kanangra Wattle	V	-	-	PCT 870	Bungonia	None	None	N/A	N/A	None	Low and Very low condition
Acacia flocktoniae	Flockton Wattle	V	V	-	PCT 870, 1150 and 1330	Bungonia	None	None	N/A	N/A	None	Low and Very low condition
Acacia phasmoides	Phantom Wattle	V	V	Yes	PCT 287	Inland Slopes	East of Albury	None	N/A	N/A	None	Low and Very low condition
Ammobium craspedioides	Yass Daisy	V	V	-	PCT 266, 268, 277, 283, 287, 290, 294, 343, 352, 727 and 1330	Bondo; Crookwell; Inland Slopes; Murrumbateman	West of the Federal Highway; outside Kosciuszko National Park; south of Cowra	None	N/A	N/A	None	None
Baloskion longipes	Dense Cord-rush	V	V	-	PCT 1093	Bungonia	None	None	N/A	N/A	None	Low and Very low condition
Bossiaea fragrans	-	CE	CE	Yes	PCT 268	Inland Slopes	None	None	N/A	N/A	None	None

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Bossiaea oligosperma	Few-seeded Bossiaea	V	V	-	PCT 1093	Bungonia	None	None	N/A	N/A	None	PCTs 0 and 9998
Caesia parviflora var. minor	Small Pale Grass-lily	E	-	-	PCT 295 and 297	Bondo; Inland Slopes	None	None	N/A	N/A	None	None
Caladenia concolor	Crimson Spider Orchid	E	V	Yes	PCT 268, 280 and 290	Inland Slopes; Murrumbateman	West of Jingellic	None	N/A	N/A	None	Low and Very low condition
Caladenia montana	-	V	-	-	PCT 300, 638, 679 953 and 1196	Bondo; Inland Slopes; Snowy Mountains	None	None	N/A	N/A	None	None
Caladenia tessellata	Thick Lip Spider Orchid	E	V	Yes	PCT 870, 1093, 1150 and 1330	Bungonia	None	None	N/A	N/A	None	Low and Very low condition; PCT 0
Calotis glandulosa	Mauve Burr-daisy	V	V	Yes	PCT 679, 1196 and 1224	Bondo; Snowy Mountains	North of Eucumbene	None	N/A	N/A	None	None
Calotis pubescens	Max Mueller's Burr-daisy	E	-	-	PCT 1224	Snowy Mountains	None	None	N/A	N/A	None	None
Commersonia prostrata	Dwarf Kerrawang	E	E	-	PCT 1191	Crookwell	None	None	N/A	N/A	None	PCTs 0 and 9998
Cullen parvum	Small Scurf-pea	E	-	-	PCT 5 and 277	Inland Slopes; Murrumbateman	None	None	N/A	N/A	None	None
Dillwynia glaucula	Michelago Parrot-pea	E	-	-	PCT 1093	Bungonia	None	None	N/A	N/A	None	None
Discaria nitida	Leafy Anchor Plant	V	-	-	PCT 679	Snowy Mountains	None	Riparian areas or within 50m of riparian areas	N/A	N/A	Within 50 m of waterbodies including natural waterways and drainage lines	None

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Diuris aequalis	Buttercup Doubletail	E	E	-	PCT 731, 1093, 1097, 1151 and 1191	Bungonia; Crookwell	Within 20 km of the Great Dividing Range	None	N/A	N/A	None	None
Diuris ochroma	Pale Golden Moths	E	V	Yes	PCT 1224	Snowy Mountains	None	None	N/A	N/A	None	None
Diuris tricolor	Pine Donkey Orchid	V	-	-	PCT 731	Inland Slopes	None	None	N/A	N/A	None	
Eucalyptus aggregata	Black Gum	V	V	-	PCT 679, 1191, 1256 and 1330	Bungonia; Crookwell; Inland Slopes; Murrumbateman	None	None	N/A	N/A	None	PCT 0
Eucalyptus alligatrix subsp. alligatrix	-	V	V	Yes	PCT 287 and 290	Inland Slopes	None	None	N/A	N/A	None	Low and Very low condition
Eucalyptus cannonii	Capertee Stringybark	V	-	-	PCT 290	Bondo; Inland Slopes	None	None	N/A	N/A	None	None
Eucalyptus macarthurii	Paddys River Box, Camden Woollybutt	E	E	-	PCT 1097 and 1330	Bungonia	None	None	N/A	N/A	None	PCT 0
Eucalyptus robertsonii subsp. hemisphaerica	Robertson's Peppermint	V	V	Yes	PCT 352 and 727	Crookwell; Inland Slopes	None	None	N/A	N/A	None	Low and Very low condition
Euphrasia arguta	-	CE	CE	Yes	PCT 266, 277, 287 and 290	Bondo; Inland Slopes; Murrumbateman; Snowy Mountains; Bungonia	None	None	N/A	N/A	None	PCT 0
Euphrasia scabra	Rough Eyebright	E	-	Yes	PCT 679 and 939	Snowy Mountains	None	Montane bogs or within 50 m of a waterbody	N/A	N/A	Within 50 m of waterbodies and swamps	None
Genoplesium superbum	Superb Midge Orchid	E	-	Yes	PCT 1150	Bungonia	None	None	N/A	N/A	None	None

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Glycine latrobeana	Clover Glycine	CE	V	Yes	PCT 1224	Snowy Mountains	None	None	N/A	N/A	None	None
Grevillea iaspicula	Wee Jasper Grevillea	CE	E	Yes	PCT 266 and 1330	Crookwell; Inland Slopes; Murrumbateman	None	Rocky areas; Limestone rock substrate	N/A	N/A	Rocky areas mapped	Very low condition
Grevillea wilkinsonii	Tumut Grevillea	CE	CE	Yes	PCT 266, 278 and 301	Inland Slopes	None	None	N/A	N/A	None	Very low condition
Hakea dohertyi	Kowmung Hakea	E	E	-	PCT 870	Bungonia	None	None	N/A	N/A	None	None
Haloragis exalata subsp. exalata	Square Raspwort	V	V	-	PCT 638	Bondo; Snowy Mountains	None	Waterbodies; Edges of coastal lakes after flooding has removed other vegetation, creek banks within flood zone, areas close to these features subject to human disturbance including road verges and transmission line easements or within 100 m	N/A	N/A	None	None
Irenepharsus magicus	Elusive Cress	E	-	Yes	PCT 638	Snowy Mountains	None	None	N/A	N/A	None	PCT 0
Kunzea cambagei	Cambage Kunea	V	V	-	PCT 1150	Bungonia	None	None	N/A	N/A	None	None
Lepidium hyssopifolium	Aromatic Peppercress	E	E	-	PCT 280, 283 and 1330	Crookwell	None	None	N/A	N/A	None	PCTs 0 and 9998

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Leucochrysum albicans var. tricolor	Hoary Sunray	-	E	-	PCT 268, 349, 351, 352, 679, 727, 731, 952, 1093, 1097, 1191 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	None	N/A	N/A	None	PCT 0
Persoonia marginata	Clandulla Geebung	V	V	-	PCT 287	Inland Slopes	None	None	N/A	N/A	none	None
Persoonia mollis subsp. revoluta	-	V	-	-	PCT 1107 and 1150	Bungonia	None	None	N/A	N/A	None	Low and Very low condition
Phyllota humifusa	Dwarf Phyllota	V	V	-	PCT 1150	Bungonia	None	None	N/A	N/A	None	Low and Very low condition
Pomaderris cotoneaster	Cotoneaster Pomaderris	E	E	-	PCT 1150	Bungonia	East of Tumut; south of northern Kosciuszko National Park boundary	None	N/A	N/A	None	Low and Very low condition
Pomaderris delicata	Delicate Pomaderris	CE	CE	Yes	PCT 1150	Bungonia	West of Shoalhaven River	None	N/A	N/A	None	Low and Very low condition
Pomaderris pallida	Pale Pomaderris	V	V	Yes	PCT 1093	Murrumbateman	None	None	N/A	N/A	None	Low and Very low condition
Prasophyllum bagoense	Bago Leek Orchid	CE	CE	Yes	PCT 1196 and 1224	Snowy Mountains	None	None	N/A	N/A	None	None
Prasophyllum innubum	Brandy Marys Leek-orchid	CE	CE	Yes	PCT 1221	Snowy Mountains	None	None	N/A	N/A	None	None
Prasophyllum keltonii	Kelton's Leek Orchid	CE	CE	Yes	PCT 1196	Snowy Mountains	East of Binalong, south and east of Boorowa	None	N/A	N/A	None	None

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Prasophyllum petilum	Tarengo Leek Orchid	E	E	-	PCT 277, 278, 1191 and 1330	Crookwell; Inland Slopes; Murrumbateman	None	None	N/A	N/A	None	Very low condition
Prasophyllum sp. Wybong	-	-	CE	-	PCT 266 and 277	Inland Slopes; Murrumbateman	None	None	N/A	N/A	None	PCT 0
Pterostylis alpina	Alpine Greenhood	V	-	-	PCT 679 and 1196	Snowy Mountains	None	None	N/A	N/A	None	None
Pterostylis foliata	Slender Greenhood	V	-	-	PCT 638, 679 and 1196	Snowy Mountains	None	None	N/A	N/A	None	None
Pterostylis oreophila	Blue-tongued Greenhood	CE	CE	Yes	PCT 939 and 9997 (waterbodies)	Snowy Mountains	None	None	N/A	N/A	None	None
Pultenaea humilis	Dwarf Bush-pea	V	-	-	PCT 268, 287, 290, 294, 306 and 343	Inland Slopes	None	None	N/A	N/A	None	PCT 0; Low and Very low condition
Rutidosis leiolepis	Monaro Golden Daisy	V	V	-	PCT 1224	Snowy Mountains	None	None	N/A	N/A	None	None
Senecio garlandii	Woolly Ragwort	V	-	-	PCT 287, 290 and 343	Bondo; Inland Slopes	Within 10 km of Burrinjuck	None	N/A	N/A	Surface rock or Rock outcrops mapped	None
Solanum armourense	-	E	-	Yes	PCT 870 and 1093	Bungonia	None	None	N/A	N/A	Surface rock or Rock outcrops mapped	None
Swainsona recta	Small Purple-pea	E	-	-	PCT 266, 268, 277, 294 and 1330	Crookwell; Inland Slopes; Murrumbateman	None	None	N/A	N/A	None	PCT 0
Swainsona sericea	Silky Swainson-pea	V	-	-	PCT 266, 277, 280, 283, 290, 322, 1191 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	None	N/A	N/A	None	PCT 0

Scientific name	Common name	BC Act Status	EPBC Act Status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet Habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Thelymitra alpicola	Alpine Sun-orchid	V	-	-	PCT 939	Snowy Mountains	None	None	N/A	N/A	None	None
Thesium australe	Austral Toadflax	V	V	-	PCT 679, 1191, 1196, 1224 and 1330	Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	Kosciuszko National Park	None	N/A	N/A	None	None
Xerochrysum palustre	Swamp Everlasting	-	V	-	PCT 679 and 939	Snowy Mountains	None	None	N/A	N/A	None	None

4.2 Threatened fauna habitat mapping criteria

Table A12- 4: Habitat mapping criteria for candidate threatened fauna

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Amphibians	*Crinia sloanei*	Sloane's Froglet	V	E	-	PCT 5, 9997 (waterbodies)	Inland Slopes	None	Semi-permanent/ephemeral wet areas; Containing relatively shallow sections with submergent and emergent vegetation, or within 500 m of wet area; Within 500 m of swamps or waterbodies	< 5 ha	<10 %	Within 50 m of waterbodies including natural waterways or drainage lines	PCT 0
Amphibians	*Litoria booroolongensis*	Booroolong Frog	E	E	-	PCT 280, 290, 1330, 9997 (Waterbodies)	Bondo; Crookwell; Inland Slopes	None	None	< 5 ha	<10 %	Within 50 m of waterbodies	None
Amphibians	*Litoria castanea*	Yellow-spotted Tree Frog	CE	E	Yes	PCT 335, 939, 1256, 9997 (Waterbodies)	Crookwell; Murrumbateman; Snowy Mountains	None	None	< 5 ha	<10 %	None	None

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Amphibians	*Mixophyes balbus*	Stuttering Frog	E	V	Yes	PCT 870, 1097, 1107, 1150	Bungonia	None	None	5 - <25 ha	31- <70 %	None	Very low condition
Amphibians	*Pseudophryne corroboree*	Southern Corroboree Frog	CE	CE	Yes	PCT 679 and 1196	Snowy Mountains	Above 1000 m altitude	Within 200 m of high montane and sub-alpine bog or ephemeral pool environments (ie swamps)	< 5 ha	>70 %	Waterbodies including natural waterways and drainage lines	None
Birds	*Burhinus grallarius*	Bush Stone-curlew	E	-	-	PCT 5, 266, 277, 280, 287, 290, 343, 352 and 1330	Bondo; Inland Slopes; Murrumbateman	None	Fallen/standing dead timber including logs	< 5 ha	11- <30 %	None	PCTs 0 and 9998; Low and Very low condition
Birds	*Callocephalon fimbriatum*	Gang-gang Cockatoo	V	E	-	PCT 5, 266, 268, 277, 278, 280, 283, 287, 290, 294, 294, 299, 300, 314, 316, 322, 343, 349, 351, 352, 638, 679, 727, 731, 870, 52, 953, 1093, 1097, 1107, 1150, 1151, 1191, 1196 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	Breeding: Eucalypt tree species with hollows greater than 9 cm diameter	< 5 ha	11- <30 %	Hollow bearing trees with hollows >6 cm	PCTs 0 and 9998; Non-woody vegetation; Very low condition; Category 1 Land
Birds	*Haliaeetus leucogaster*	White-bellied Sea Eagle	V	-	-	PCT 5, 85, 266 277, 280, 283, 278, 287, 290, 299, 314, 316, 352, 679, 953, 1191 and 1330	Crookwell; Murrumbateman; Inland Slopes	None	Foraging: Within 1 km of a rivers, lakes, large dams or creeks, wetlands and coastlines; Breeding: Living or dead mature trees within suitable vegetation within	< 5 ha	<10 %	500 m buffer (250 m for peri-urban/urban areas) to suitable waterways	Non-woody vegetation; Very low condition; Category 1 Land

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
									1 km of a rivers, lakes, large dams or creeks, wetlands and coastlines			(Refer to Section 3.1)	
Birds	*Hieraaetus morphnoides*	Little Eagle	V	-	-	PCT 5, 266, 268, 277, 278, 280, 283, 285, 287, 290, 294, 295, 296, 297, 299, 300, 301, 306, 314, 316, 322, 335, 343, 349, 351, 352, 638, 679, 727, 731, 870, 939, 952, 953, 1093, 1097, 1107, 1150, 1191, 1196 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	Breeding: Nest trees - live (occasionally dead) large old trees within vegetation.	< 5 ha	11- <30 %	None	PCT 0; Non-woody vegetation; Very low condition; Category 1 Land
Birds	*Lophoictinia isura*	Square-tailed Kite	V	-	-	PCT 5, 266, 268, 277, 278, 280, 283, 287, 290, 294, 322, 352, 731, 953 and 1093	Bondo; Inland Slopes; Murrumbateman	None	Breeding: Nest trees	< 5 ha	11- <30 %	None	Non-woody vegetation; Very low condition; Category 1 Land
Birds	*Ninox connivens*	Barking Owl	V	-	-	PCT 5, 266, 268, 277, 278, 280, 283, 290, 295, 314, 343, 638, 870, 953, 1093, 1097, 1107, 1150, 1191 and 1330	Bondo; Bungonia; Inland Slopes; Murrumbateman; Snowy Mountains	None	Breeding: Living or dead trees with hollows greater than 20 cm diameter and greater than 4 m above the ground.	< 5 ha	11- <30 %	Hollow bearing trees with hollows >20 cm present	PCT 0; Non-woody vegetation; Very low condition; Category 1 Land

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Birds	*Ninox strenua*	Powerful Owl	V	-	-	PCT 5, 283, 287, 290, 295, 300, 314, 351, 352, 638, 727, 731, 870, 953, 1093, 1097, 1107, 1150, 1151, 1191 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	Breeding: Living or dead trees with hollow greater than 20 cm diameter	< 5 ha	11- <30 %	Hollow bearing trees with hollows >20 cm present	Non-woody vegetation; Very low condition; Category 1 Land
Birds	*Petroica rodinogaster*	Pink Robin	V	-	-	PCT 299, 300, 638, 679, 953, 1097, 1107, 1150, 1191 and 1196	Bondo; Bungonia; Inland Slopes; Snowy Mountains	None	None	< 5 ha	11- <30 %	None	No woody vegetation; Very low condition; Category 1 Land
Birds	*Tyto novaehollandiae*	Masked Owl	V	-	-	PCT 266, 277, 280, 290, 294, 638, 870, 953, 1093, 1097, 1107, 1150, 1191 and 1330	Bondo; Bungonia; Inland Slopes; Snowy Mountains	None	Breeding: Living or dead trees with hollows greater than 20 cm diameter.	< 5 ha	11- <30 %	Hollow bearing trees with hollows >20 cm present	Non-woody vegetation; Very low condition; Category 1 Land
Birds	*Tyto tenebricosa*	Sooty Owl	V	-	Yes	PCT 638	Snowy Mountains	None	Breeding: Caves or clifflines/ledges; Living or dead trees with hollows greater than 20 cm diameter.	>= 100 ha	>70 %	Hollow bearing trees with hollows >20 cm present; Potential cliffs (ie supplementary cliffline mapping)	None
Invertebrate	*Paralucia spinifera*	Purple Copper Butterfly	E	V	-	PCT 135, 731, 1191 and 1330	Murrumbateman	None	Bursaria spinosa or within 40 m of Bursaria spinosa	< 5 ha	<10 %	None	None

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Invertebrate	*Keyacris scurra*	Key's Matchstick Grasshopper	E	E	-	PCT 266, 277, 278, 283 and 1330	Bungonia; Crookwell; Inland Slopes; Murrumbateman	None	None	< 5 ha	<10 %	None	None
Invertebrate	*Synemon plana*	Golden Sun Moth	V	V	-	PCT 266, 277, 352 and 1330	Inland Slopes; Murrumbateman	None	Wallaby grass (*Rytidosperma sp*), Chilean needlegrass (*Nassella nessiana*) or Serrated Tussock (*Nassella trichotoma*)	< 5 ha	<10 %	None	Woody vegetation
Mammals	*Chalinolobus dwyeri*	Large-eared Pied Bat	V	V	Yes	PCT 1093 and 1330	Bungonia	None	Within 2 km of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	< 5 ha	11- <30 %	None	Non-woody vegetation; Very low condition; Category 1 Land
Mammals	*Miniopterus orianae oceanensis*	Large Bent-winged Bat	V	-	Yes	PCT 1290, 351, 1093 and 1330	Bungonia; Inland Slopes; Murrumbateman	None	Breeding: Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500	< 5 ha	<10 %	Within 100 m of moderate to high potential karst	Non-woody vegetation; Very low condition; Category 1 Land
Mammals	*Myotis macropus*	Southern Myotis	V	-	-	PCT5, 299, 349, 352, 870, 1107, 191 and 1330	Bondo; Bungonia; Inland Slopes; Murrumbateman; Snowy Mountains	None	Hollow bearing trees; Bridges, caves or artificial structures within 200 m of riparian zone; Waterbodies including	< 5 ha	<10 %	Anthropogenic habitat (culverts/ bridges) present; Within 200 m	PCT 0 and 9998; Non-woody vegetation; Very low condition;

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
									rivers, creeks, billabongs, lagoons, dams and other waterbodies on or within 200 m of the site			of Strahler 2nd order streams	Category 1 Land
Mammals	*Cercartetus nanus*	Eastern Pygmy-possum	V	-	-	PCT 268, 277, 280, 283, 285, 287, 290, 294, 295, 97, 299, 300, 314, 349, 352, 638, 727, 731, 952, 1093, 1097, 1107, 1150, 1151, 1191, 1196 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	None	< 5 ha	11- <30 %	Midstorey present	Non-woody vegetation; Very low condition; Category 1 Land
Mammals	*Petauroides volans*	Greater Glider	-	V	-	PCT 299, 300, 316, 351, 638, 727, 870, 952, 953, 1093, 1097, 1107, 1150, 1151, 1191, 1196 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	Hollow bearing trees	5 - <25 ha	31- <70 %	Hollow bearing trees with hollows >10 cm	Non-woody vegetation; Very low condition
Mammals	*Petaurus norfolcensis*	Squirrel Glider	V	-	-	PCT 5, 266, 268, 277, 278, 280, 283, 287, 290, 294, 314, 316, 322, 343, 349, 351, 352, 731, 870, 953, 1093, 1150, 1151 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	None	< 5 ha	<10 %	Hollow bearing trees with hollows > 5 cm	Non-woody vegetation; Very low condition

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
Mammals	*Petrogale penicillata*	Brush-tailed Rock-wallaby	E	V	Yes	PCT 283, 870, 1093, 1107, 1150 and 1330	Bungonia	None	Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines	5 - <25 ha	11- <30 %	Within 100 m of moderate to high potential karst; Rocky outcrops present; Caves overhangs present	Non-woody vegetation; Very low condition; Category 1 Land
Mammals	*Phascogale tapoatafa*	Brush-tailed Phascogale	V	-	-	PCT 638 and 953	Bondo; Snowy Mountains	None	None	< 5 ha	<10 %	Hollow bearing trees with hollows > 5 cm	Non-woody vegetation; Very low condition; Category 1 Land
Mammals	*Phascolarctos cinereus*	Koala	E	E	-	PCT 5, 266, 268, 277, 278, 280, 283, 285, 287, 290, 294, 295, 296, 297, 299, 300, 301, 306, 314, 316, 322, 335, 343, 349, 351, 352, 638, 679, 727, 731, 870, 939, 953, 1093, 1097, 1107, 1150, 1151, 1191, 1196 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman; Snowy Mountains	None	Breeding: Areas identified via survey as important habitat	< 5 ha	<10 %	None	Non-woody vegetation; Very low condition; Category 1 Land
Mammals	*Mastacomys fuscus*	Broad-toothed Rat	V	V	-	PCT 679	Snowy Mountains	None	None	5 - <25 ha	31- <70 %	None	Non-woody vegetation; Very low

Group	Scientific name	Common name	BC Act status	EPBC Act status	SAII	Associated PCTs within the project footprint	IBRA subregion	Geographic constraints	BioNet habitat constraints (Incl. Breeding and Foraging)	Patch size	Vegetation cover	Habitat constraints applied	Degraded habitats removed
													condition; Category 1 Land
Mammals	*Pseudomys fumeus*	Smoky Mouse	CE	E	Yes	PCT 638, 953 and 1196	Bondo; Snowy Mountains	None	None	>= 100 ha	>70 %	None	Non-woody vegetation; Very low condition; Category 1 Land
Reptiles	*Aprasia parapulchella*	Pink-tailed Legless Lizard	V	V	-	PCT 266, 277, 278, 280, 283, 290, 294, 319, 322, 351, 731, 1191 and 1330	Bondo; Bungonia; Crookwell; Inland Slopes; Murrumbateman	South of Grabben Gullen; West of Dalton	Rocky areas or within 50 m of rocky areas	< 5 ha	<10 %	Within 50 m of Rock features	None
Reptiles	*Cyclodomorphus praealtus*	Alpine She-oak Skink	E	E	-	PCT 679 and 1196	Snowy Mountains	None	None	< 5 ha	31- <70 %	None	Very low condition; Category 1 Land
Reptiles	*Delma impar*	Striped Legless Lizard	V	V	-	PCT 277, 1330 and Non-native	Bungonia; Crookwell; Inland Slopes; Murrumbateman	None	None	< 5 ha	<10 %	None	None

Attachment 13. Serious and irreversible impacts

1. Introduction

This attachment presents additional information to assist the determining authority with evaluating the extent and severity of project impacts to candidate SAII entities recorded or assumed present within the project footprint (Table A13- 1). Data and information presented within was obtained from BCD (date of BCD data packages requested and received detailed in Table A13- 1 for each SAII entity), and available online resources. Reference sources utilised beyond BCD data packages are detailed in each SAII assessment.

Table A13- 1 below provides the rationale for conducting an SAII assessment for each candidate SAII entity considered. Sections 2 and 3 of this attachment provide detailed information to support SAII assessments for species likely to be impacted by the project and those with a limited potential for impacts respectively.

Table A13- 1: SAII entities recorded or assumed present categorised by likelihood of impacts (likely versus limited potential)

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Threatened biodiversity SAII candidates likely to be impacted Species have been included in this section of the table where some level of impact for the species is considered at least moderately likely.					
TECs					
White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland	-	True	-	Yes. This TEC was recorded in the project footprint and is likely to be impacted by the project. SAII assessment required.	Requested data package from BOS Help Desk on 24 March 2022, data package received 28 March 2022
Tableland Basalt Forest in the Sydney Basin and South-Eastern Highlands Bioregions	-	True	-	Yes. This TEC was recorded in the project footprint and is likely to be impacted by the project. SAII assessment required.	Requested data package from BOS Help Desk on 24 March 2022, data package received 28 March 2022
Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South-Western Slopes and South-Eastern Highlands Bioregions	-	True	-	Yes. This TEC was recorded in the project footprint and is likely to be impacted by the project. SAII assessment required.	Requested data package from BOS Help Desk on 24 March 2022, data package received 28 March 2022
Monaro Tableland Cool Temperate Grassy Woodland in the South-Eastern Highlands Bioregion	-	True	-	Yes. This TEC was recorded in the project footprint and is likely to be impacted by the project. SAII assessment required.	Requested data package from BOS Help Desk on 24 March 2022, data package received 28 March 2022

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Threatened flora					
Prasophyllum bagoense	Bago Leek Orchid	True	-	*Prasophyllum bagoense* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. A population has been previously recorded 130 m to the west of the project footprint in Bago State Forest. Potential habitat for the species would be impacted by the project at this location. SAII assessment required.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species specifically to conduct the SAII assessment.
Prasophyllum innubum	Brandy Marys Leek-orchid	True	-	*Prasophyllum innubum* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Potential habitat for the species would be impacted by the project. SAII assessment required.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species specifically to conduct the SAII assessment.
Prasophyllum keltonii	Kelton's Leek Orchid	True	-	*Prasophyllum keltonii* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. A population was recorded 750 m to the west of the project footprint in Bago State Forest during field surveys carried out for the project. Potential habitat for the species would be impacted by the project at this location. SAII assessment required.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species specifically to conduct the SAII assessment.
Pterostylis oreophila	Blue-tongued Greenhood	True	-	*Pterostylis oreophila* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Potential habitat for the species would be impacted by the project. SAII assessment required.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Solanum armourense	-	True	-	*Solanum armourense* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Potential habitat for the species would be impacted by the project. SAII assessment required.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Threatened fauna					
Litoria castanea	Yellow-spotted Tree Frog	True	-	Yellow-spotted Tree Frog was not recorded in the project footprint. The species has a moderate likelihood of occurrence within the Murrumbateman IBRA subregion where suitable permanent streams occur and historic records are known. No habitats within Murrumbateman would be impacted. Species presence has been assumed within some IBRA subregions predicted by the BAM-C due to survey limitations. A limited area of potential habitat would be impacted within Crookwell and the Snowy Mountains. As such, an SAII assessment is required.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Pseudomys fumeus	Smoky Mouse	True	-	Smoky Mouse was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Potential habitat for the species would be impacted by the project. An SAII assessment is required for the species.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Tyto tenebricosas	Sooty Owl	-	True	Sooty Owl was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations and potential habitat for the species within the Snowy Mountains IBRA subregion. An SAII assessment is required for the species.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023.No data was provided for this species.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Threatened biodiversity SAII candidates with limited potential to be impacted Species have been included in this section of the table where there is incomplete information to be able to exclude them from SAII assessment despite a limited likelihood of potential impacts and/or occurrence within the disturbance footprint, for example: The species/entity was not found during field surveys of comparable habitat, however the survey coverage was incomplete or surveys were not conducted during the required season and the species is known or predicted from the broader IBRA sub-region.					
Threatened flora					
Acacia phasmoides	Phantom Wattle	True	-	Habitat for *Acacia phasmoides* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Despite this, the species is considered unlikely to occur within the project footprint given it is only known from one location in NSW: Woomagarma National Park in Greater Hume Shire (nearest known location is approximately 27 km from the project footprint). A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Bossiaea fragrans	-	True	-	*Bossiaea fragrans* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is only known from the Abercrombie Karst Conservation Reserve (nearest known location is approximately 75 km from the project footprint) and within the adjacent Travelling Stock Reserve, south of Bathurst on the NSW central tablelands. It has a highly restricted distribution, with only a small number of discrete known sub-populations. Given this, the species is considered unlikely to occur within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Caladenia concolor	Crimson Spider Orchid	True	-	*Caladenia concolor* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species has a low likelihood of occurrence. Known populations are limited to a property near Bethungra and within Burrinjuck Nature Reserve (nearest known location is approximately 4 km from the project footprint). Requires woodland with a high diversity of plant species. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Caladenia tessellata	Thick Lip Spider Orchid	True	-	*Caladenia tessellata* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. No known populations occur within proximity to the project footprint (nearest known location is approximately 55 km from the project footprint) and the species likelihood of occurrence is considered low. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Calotis glandulosa	Mauve Burr-daisy	True	-	*Calotis glandulosa* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is known from three sites in the upper Shoalhaven catchment (approximately 20 km from the project footprint). Whilst it is a coloniser of disturbed lands it does not tolerate heavy grazing. The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Diuris ochroma	Pale Golden Moths	True	-	*Diuris ochroma* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Known populations of the species are limited to Kosciuszko National Park and the Kybean area in NSW (approximately 27 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Eucalyptus alligatrix subsp. *alligatrix*	-	True	-	*Eucalyptus alligatrix subsp. alligatrix* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is only known from a single population south-west of Rylstone (approximately 174 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Eucalyptus robertsonii subsp. *hemisphaerica*	Robertson's Peppermint	True	-	*Eucalyptus robertsonii subsp. hemisphaerica* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is known only from the central tablelands of NSW north of Orange to Burraga (approximately 64 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species
Euphrasia arguta	-	True	-	*Euphrasia arguta* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
				survey limitations. Only known population of the species occurs in the Nundle area of NSW (approximately 195 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	
Euphrasia scabra	Rough Eyebright	True	-	*Euphrasia scabra* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. There are three known populations of the species in NSW: Bondi State Forest, South East Forests National Park and near Nunnock Swamp (nearest known location is approximately 14 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Genoplesium superbum	Superb Midge Orchid	True	-	Suitable habitat for *Genoplesium superbum* was detected within the project footprint within the Bungonia IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The species is only known from two locations near Nerriga and Morton National Park in NSW (nearest known location is approximately 71 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Glycine latrobeana	Clover Glycine	True	-	*Glycine latrobeana* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The closest known population is within Kosciuszko National Park (approximately 30 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Grevillea iaspicula	Wee Jasper Grevillea	True	-	*Grevillea iaspicula* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is only known to occur on the shores of Lake Burrinjuck (approximately 11 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Grevillea wilkinsonii	Tumut Grevillea	True	-	*Grevillea wilkinsonii* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is only known from two locations in NSW: Goobarragandra River and overlapping two properties at Gundagai (nearest known location is approximately 14 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023.
Irenepharsus magicus	Elusive Cress	True	-	Habitat for Elusive Cress was detected within the project footprint in the Snowy Mountains IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species, however certain	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. Data received 3 March 2023].

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
				areas of potential suitable habitat within the project footprint were inaccessible for surveys, therefore the species has been assumed present in these areas. Despite this, the species is considered to have a low likelihood of occurring within the project footprint. The only known records from Geehi Dam within Kosciuszko National Park (nearest known location is approximately 56 km from the project footprint). A SAII assessment has been undertaken on a precautionary basis.	
Pomaderris delicata	Delicate Pomaderris	True	-	*Pomaderris delicata* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. Known from only two sites: between Goulburn and Bungonia and south of Windellama (nearest known location is approximately 32 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Pomaderris pallida	Pale Pomaderris	True	-	*Pomaderris pallida* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. There are no known records of the species within 20 km of the project footprint (nearest known location is approximately 38 km from the project footprint). The species is considered to have a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
Zieria obcordata	Granite Zieria	True	-	*Zieria obcordata* was not recorded in the project footprint, however the species has been assumed present over a portion of the project footprint due to survey limitations. The species is only known from two sites in NSW: one in the Wuuluman area near Wellington and the other at Crackerjack Rock/ Rock Forests area north-west of Bathurst (nearest known location is approximately 224 km from the project footprint). The species has a low likelihood of occurring within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Threatened fauna					
Miniopterus orianae oceanensis	Large Bent-winged Bat	-	True	Large Bent-winged Bat was recorded in the project footprint and foraging habitat would be impacted by the project, however the SAII component for this species is confined to breeding habitat. Potential breeding habitat for the species has not been recorded however a singly rocky gully situated in the Murrumbateman IBRA subregion has been identified as potential habitat. This potential breeding habitat would not be impacted by the project, however a small area (i.e. 0.11 ha) would be cleared within 100 m of the potential roost site. No ground disturbance is proposed in this location. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Mixophyes balbus	Stuttering Frog	True	-	Stuttering Frog was not recorded in the project footprint. Suitable wet sclerophyll forest habitat and permanent streams occur within the Bungonia IBRA subregion however the closest historic records are within the Blue Mountains (about 40 km north). The	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
				species has been assumed present over a portion of the project footprint due to survey limitations. A SAII assessment has been undertaken on a precautionary basis.	
Petrogale penicillata	Brush-tailed Rock-wallaby	True	-	Brush-tailed Rock Wallaby was not recorded in the project footprint. The closest known record (1997) is about 8 km north of the project at Wombeyan Caves. There is potential for habitat to occur immediately north of Tarlo River National Park within a large patch of remnant vegetation. The species has been assumed present within this area due to survey limitations. However, further refinement of the species polygon is required as many lands are unlikely to support suitable rocky habitats. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Chalinolobus dwyeri	Large-eared Pied Bat	True	-	Large-eared Pied Bat was not recorded in or adjacent to the project footprint. Species presence has been assumed within 2 km of mapped potential karst and cliff lines, due to survey limitations. About 7.7 ha of potential foraging habitat for the species would be impacted by the project. The project would not interfere with habitat occurring within 100 m of mapped potential karst and cliff lines. A SAII assessment has been undertaken on a precautionary basis.	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species.
Pseudophryne corroboree	Southern Corroboree Frog	True	-	Southern Corroboree Frog was not recorded in the project footprint. Some patches of suitable sphagnum bog habitats occur within the Snowy Mountains IBRA subregion. The species has been assumed present within these areas due to survey limitations. However, the known range of the species is limited to Kosciuszko National Park (nearest known	Data requested from BOS Help desk in March 2022 and again on 3 February 2023. No data was provided for this species

Scientific Name	Common Name	SAII	SAII Breeding	SAII Assessment required?	Information sources
				location is approximately 12 km from the project footprint) and the species is considered unlikely to occur within the project footprint. A SAII assessment has been undertaken on a precautionary basis.	

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2. Threatened biodiversity SAII candidates likely to be impacted

2.1 Threatened ecological communities

2.1.1 Box-Gum Woodland and Tableland Basalt Forest

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
Impact summary	The project would result in direct impacts to a total of 311.78 ha of White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland. This area constitutes all condition classes including low and very low condition classes which make up 75% (233 ha) of the stated impact area. It is noted that statistics relating to clearing and the remaining extent of this community typically equate historic clearing with clearing of woody vegetation (canopy and midstorey elements) and provide statistics on remaining areas of the community based on condition thresholds that exceed condition thresholds employed under the current BAM method (eg *Austin et al. (2000)* calculation of 1% of the community remaining). Definitions of native vegetation have broadened under the BAM and therefore much of the area (those comprising areas with limited woody vegetation cover and/or less than 50% native vegetation ground cover) apportioned to this community under the current assessment may be within areas considered as cleared areas to inform statistics. In addition, lands that would be considered Category 1 lands if not part of a critically endangered PCT have been included within the stated areas to be cleared. Accordingly, it is useful to consider the area of moderate to high condition vegetation proposed to be cleared rather than any/all vegetation classed as the community under the BAM and this assessment. This consideration is particularly pertinent given that limited loss of condition is expected for	The project would result in direct impacts to a total of 37.42 ha of Tableland Basalt Forest in the Sydney Basin Bioregion and South Eastern Highlands Bioregions. This area constitutes all condition classes including low and very low condition classes, however excludes areas mapped as Category 1 lands. The majority (76%) of impacted areas are high or very high condition areas, however a large proportion of the impacts (22%) are within the Hazard Tree Zone where limited VI (condition) loss is expected. Potential indirect impacts to the TEC include: • Inadvertent impacts on adjacent vegetation. • Transport of weeds and pathogens from the site to adjacent vegetation. • Changed fire regimes. Prescribed impacts to the TEC include: • Impacts to habitat connectivity • Impacts on water quality, waterways, and hydrological processes.

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Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
	areas that are already in low condition in this assessment where clearing is for the ECZ or HTZ zones which comprise a significant proportion of the proposed clearing. Potential indirect impacts to the TEC include: • Inadvertent impacts on adjacent vegetation. • Transport of weeds and pathogens from the site to adjacent vegetation. • Changed fire regimes. Potential prescribed impacts to the TEC include: • Impacts on water quality, waterways, and hydrological processes.	
1. The assessor is required to provide further information in the BDAR or BCAR regarding the impacts on each TEC at risk of an SAII. This must include the action and measures taken to avoid the direct and indirect impact on the TEC at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR and BCAR.	Eight PCTs within the project footprint aligned with the White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland (Box Gum Woodland) TEC. The TEC occurred in varying condition states across all IBRA subregions intersecting the project footprint. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to TECs include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of TEC impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying TEC remnants and their existing condition, habitat features and important connectivity corridors. • Establishment of biodiversity exclusion zones in retained vegetation to demarcate high condition TEC	Tableland Basalt Forest in the Sydney Basin and South Eastern highland Bioregion TEC aligns with five PCTs within the project footprint: PCTs 952, 953, 1196, 1097 and 1107. The TEC occurs within the Crookwell, Bungonia and Bondo IBRA subregion. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to TECs include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of TEC impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying TEC remnants and their existing condition, habitat features and important connectivity corridors. • Establishment of biodiversity exclusion zones in retained vegetation to demarcate high condition TEC remnants as no-go zones during the construction phase (EMM B23).

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
	remnants as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of TECs within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of TECs within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20).
2. The assessor must consult the TBDC and/or other sources to report on the current status of the TEC including:		
• evidence of reduction in geographic distribution (Principle 1, clause 6.7(2)(a) BC Regulation) as the current total geographic extent of the TEC in NSW AND the estimated reduction in geographic extent of the TEC since 1970 (not including impacts of the proposal)	***Principle 1 SAII = Yes*** *Meets reduction in geographic extent of ≥90% since 1750 or ≥80% since 1970.* *Final Determination: Austin et al. (2000) found the community had been reduced to less than 1% of its pre-European extent in the Central Lachlan region. Comparable degrees of reduction have been documented for NSW south-western slopes and southern Tablelands (estimated <4% remaining, Thomas et. al. 2000), and for the Holbrook area (estimated <7% remaining, Gibbons and Boak (2000).*	**Information provided by EES (07/04/2022)** ***Principle 1 SAII = Yes*** *Meets reduction in geographic extent of ≥90% since 1750 or ≥80% since 1970.* *Final Determination = The area of the community remaining in the Sydney - South Coast region is estimated to represent approximately 5-20% of its projected occurrence there at the time of European settlement.* Principle 1 applies to this TEC. An estimated 5-20% of the original distribution of this TEC prior to European settlement remains (DPE 2011, Tozer *et. al.* 2010),

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	***White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland***	***Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions***
	In 2010 it was estimated that only 405,000 ha of *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland* in various condition states remained (DECCW 2010). Thomas *et al.* (2000) estimated that approximately 59,468 hectares remained in south-eastern NSW as of the year 2000, which is less than 4% of its original extent. There is circumstantial evidence which suggests that clearing of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland is ongoing and has increased in recent years, at least in NSW which accounts for three quarters of the distribution of the Ecological Community (Tozer & Simpson 2020).	and therefore meets the criterion for reduction in geographic extent of ≥90% since 1750. TEC distribution data from 1970 is not available and therefore the estimated reduction in geographic extent of the TEC since 1970 has not been estimated.
• extent of reduction in ecological function for the TEC using evidence that describes the degree of environmental degradation or disruption to biotic processes (Principle 2, clause 6.7(2)(b) BC Regulation) indicated by: ▪ change in community structure ▪ change in species composition ▪ disruption of ecological processes ▪ invasion and establishment of exotic species ▪ degradation of habitat, and ▪ fragmentation of habitat	***Principle 2 SAII = Yes*** *Meets reduction in ecological function of ≥90% since 1750 or ≥80% since 1970* *Final Determination = White Box Yellow Box Blakely's Red Gum Woodland has been drastically reduced in area and highly fragmented because of clearance for cropping and pasture improvement. Austin et al. (2000) found the community had been reduced to less than 1% of its pre-European extent in the Central Lachlan region. Comparable degrees of reduction have been documented for NSW south-western slopes and southern Tablelands (estimated <4% remaining, Thomas et. al. 2000), and for the Holbrook area (estimated <7% remaining, Gibbons and Boak (2000). Gibbons and Boak (2000) found remnants of woodlands dominated by Eucalyptus albens, E. melliodora and E. blakelyi were severely fragmented." "These threats include: further clearing (for cropping, pasture improvement or other development); deterioration of remnant condition (caused by firewood cutting, increased livestock grazing, weed invasion, inappropriate fire regimes, soil disturbance and increased nutrient loads); degradation of the landscape in which*	**Information provided by EES (11/04/2022)** ***Principle 2 SAII = Yes*** *Meets reduction in ecological function of ≥90% since 1750 or ≥80% since 1970* *Final Determination = The area of the community remaining in the Sydney - South Coast region is estimated to represent approximately 5-20% of its projected occurrence there at the time of European settlement." "Extensive clearing of Tableland Basalt Forest has resulted in fragmentation and loss of ecological connectivity. The remaining area of the community is severely fragmented, with more than 70% of mapped extant patches estimated to be less than 10 ha." "The integrity and survival of small, isolated stands are impaired by the small population size of many species, enhanced risks from environmental stochasticity, disruption to pollination and dispersal of fruits or seeds, and likely reduction in the genetic diversity of isolated populations." "Fragmentation of habitat and disruption of these ecological processes contribute to a large reduction in the ecological function of the community.* Principle 2 applies to this TEC.

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Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
	remnants occur (including soil acidification, salinity, and loss of connectivity between remnants). Change in community structure*:* The Box Gum Woodland that existed prior to European settlement now exists as remnants in three different states. The three states are: • An overstorey of eucalypt trees exists, but there is no substantial native understorey. • A native understorey exists, but the trees have been cleared. • Both a native understorey and an overstorey of eucalypts exist in conjunction. • Change in species composition: Grazing, pasture improvement and changed fire regimes has had a significant impact on the species composition of remaining remnants. Grazing has been shown to lead to a reduction in understorey species diversity and richness due to the suppression or loss of native species that are both highly palatable and intolerant of grazing by domestic stock (Tozer and Simpson 2020). • The disruption of biotic processes and interactions caused by the implementation of management for agricultural production is very severe and the impacts are estimated to apply over more than 90% of the pre-1750 distribution of Box Gum Woodland. The ecological community continues to be degraded at both the patch and landscape scale. This ongoing modification, while not necessarily leading to the total destruction of all elements of the ecological community, threatens it with extinction (Tozer and Simpson 2020). • Invasion and establishment of exotic species: The reduction of native plant cover by grazing presents opportunities for the invasion by exotic plant	Change in community structure: Undisturbed stands are an open forest or woodland structure with an open canopy of eucalypts, sparse small trees and shrubs and a dense and largely continuous ground cover of herbs and grasses. Community structure varies depending on historic and current disturbance, particularly clearing and grazing and disturbed stands may lack the tree and/or shrub strata. The community includes derived native grasslands where the tree and shrub strata have been removed, however, contain ground cover species characteristic of the community. After total or partial clearing, the tree stratum may remain sparse or may regrow to form dense stands of saplings and small trees. These dense stands, which are typically associated with a ground layer with reduced cover and species diversity (DECCW 2010, NSWSC 2011). Change in species composition: This TEC has been subject to significant changes in the floristic composition of the community through the loss of large trees resulting in the loss of fauna habitat and overgrazing of palatable species resulting in loss of flora species characteristic of the community (DECCW 2010, NSWSC 2011). Disruption of ecological processes: Fragmentation of habitat leading to the loss of connectivity and resulting in the disruption of ecological processes (e.g. pollination, the dispersal of propagules), the invasion and establishment of exotic species, habitat degradation associated with overgrazing and erosion and reduced fire frequency contributes to a reduction in the ecological function of this TEC (DECCW 2010, NSWSC 2011). Invasion and establishment of exotic species: Invasion of exotic species poses a significant threat to this TEC. Several of the common exotic species (particularly grasses such as *Holcus lanatus* and *Lolium perenne*) form a dense ground layer that is

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
	species. Of the remaining area, a large proportion of it has been modified and occurs as trees over a predominantly exotic understorey (Tozer and Simpson 2020). • Degradation of habitat, and fragmentation of habitat: This ecological community is subject to ongoing threats across its range, including further clearing, deterioration of remnant condition and degradation of the landscape in which remnants occur. Degradation and fragmentation of this ecological community involves the loss of suites of species, such as woodland birds, understorey plant species and soil crusts. It is known that these woodlands and grasslands are losing suites of functionally important species, and that these losses are detrimentally impacting upon this ecological community (Tozer and Simpson 2020).	capable of smothering native plants, reducing their reproduction and survival (NSWSC 2011). Degradation of habitat: Moderate to heavy grazing of this TEC by domestic livestock and rabbits has resulted in the decline and disappearance of palatable shrub and herb species and compaction and erosion of topsoil, making it difficult for a diverse native understorey to re-establish at times when total grazing pressure is reduced. The effects of such overgrazing may be exacerbated under drought conditions (NSWSC 2011). Fragmentation of habitat: Extensive clearing of this TEC has resulted in fragmentation and loss of ecological connectivity (NSWSC 2011).
• evidence of restricted geographic distribution (Principle 3, clause 6.7(2)(c) BC Regulation), based on the TEC's geographic range in NSW according to the: ▪ extent of occurrence ▪ area of occupancy, and ▪ number of threat-defined locations	***Principle 3 SAII = No*** *Number of locations = Unknown* *Estimated AOO = Unknown* *Estimated EOO = 263,778 km^2* *Estimated total current extent = Unknown* The geographic distribution of Box Gum Woodland is not restricted. The extent of occurrence of this ecological community is very large, notwithstanding that it has undergone a severe decline in area of occupancy due to both clearing and degradation. The best estimate of the extent of occurrence is 263,778 km^2 (DPE 2022). The best estimate of the area of occupancy is 151,100 km^2 (Tozer and Simpson 2020). While this ecological community is subject to demonstrable, ongoing threats, there are insufficient data to determine the current degree of these threats across the dispersed remnants	**Information provided by EES (07/04/2022)** ***Principle 3 SAII = No*** *Number of locations = Unknown* *Estimated AOO = 11,200 km^2* *Estimated EOO = 21,841 km^2* *Estimated total current extent = 38,388 ha* Principle 3 does not apply to this TEC, however: The estimated extent of occurrence of this TEC is 21,841 km^2. The estimated area of occupancy of this TEC is 11,200 km^2. Data on the number of threat-defined locations for this TEC is not recorded. The TEC is known or predicted within 10 IBRA Subregions of the South Eastern Highlands Bioregion with no geographic restrictions within any subregion (OEH 2022). The estimated total current extent of this TEC is 38,388 ha. Approximately 280 ha of this TEC protected in conservation

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Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
	of this ecological community. There are also insufficient data to accurately determine its current area (Tozer and Simpson 2020).	reserves which represents <2% of the original extent of this TEC prior to European settlement (Tozer *et al.* 2010).
• evidence that the TEC is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation). • known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (e.g. species is clonal) on, a biodiversity stewardship site • the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or • life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	Principle 4 does not currently apply to TEC's (DPE 2022), however: • There are no known reproductive characteristics that severely limit the ability to increase the existing population on or occupy new habitat on a biodiversity stewardship site. • The TEC is not reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site. However, the success is likely to be dependent on the location of the site. • The ecology is known, KTPs can reasonably be controlled within a biodiversity stewardship site and the TEC is expected to be responsive to management.	Principle 4 does not currently apply to TEC's (DPE 2022), however: • There are no known reproductive characteristics that severely limit the ability to increase the existing population on or occupy new habitat on a biodiversity stewardship site. • The TEC is not reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site. However, the success is likely to be dependent on the location of the site. • The ecology is known, KTPs can reasonably be controlled within a biodiversity stewardship site and the TEC is expected to be responsive to management.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a TEC for a criterion listed in Subsection 9.1.1(2.), the assessor must record this in the BDAR or BCAR.	Tozer and Simpson (2020) note that the following data components for Box Gum Woodland are data deficient: Environmental degradation in the last 50 years, in the next 50 years and since 1750. Quantitative analysis - No quantitative analysis of ecosystem collapse has been carried out for Box Gum Woodland. An unknown area of Box Gum Woodland has been subjected to clearing of understorey species, probably in addition to the sowing of exotic pasture, or the clearing of Eucalypt regrowth in derived grassland. The rates of clearing or modification of areas of derived grassland are also unknown and difficult to measure.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this TEC for a criterion listed in Subsection 9.1.1(2.).
4. In relation to the impacts from the proposal on the TEC at risk of an SAII, the assessor must include data and information on:		

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
• the impact on the geographic extent of the TEC (Principles 1 and 3) by estimating the total area of the TEC to be impacted by the proposal: ▪ in hectares, and ▪ as a percentage of the current geographic extent of the TEC in NSW. Data and information should include direct impacts (i.e. from clearing) and indirect impacts where partial loss of the TEC is likely as a result of the proposal. The assessor should consider for example, changes to fire regime (frequency, severity), hydrology, pollutants, species interactions (increased competition, changes to pollinators or dispersal), fragmentation, increased edge effects and disease, pathogens and parasites, which are likely to contribute to the loss of flora and/or fauna species characteristic of the TEC.	Approximately 3,137 ha of *White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland* TEC (BC Act) occurs in the project footprint (Figure 6-1). The majority (80%) of this TEC in the project footprint is in a low to very low condition, 8% is in moderate condition and 11% is in high to very high condition. A total of 311.78 ha would be directly impacted by the project. Of the area that is likely to be directly impacted, 16% (49.35 ha) is in high to very high condition, and the majority is in low to very low condition. The best estimate of the extent of occurrence for this TEC is 263,778 km^2 (DPE 2022). Given this, less than 0.01% of this TEC's estimated extent of occurrence would be directly impacted by the project. Potential indirect impacts would include edge effects and potential for increased weed invasion adjacent to the easement, potential changes to fire regimes in surrounding vegetation as a result of management for asset protection, potential for introduction of weeds, diseases and pathogens in the construction phase and operation phase by use of designated access tracks by unclean vehicles.	Approximately 176.85 ha of Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions TEC occurs in the project footprint (Figure 6-1). The majority (60%) of this TEC in the project footprint is in high to very high condition, 5% is in moderate condition and 35% is in a low to very low condition. Of that, a total of 37.42 ha is likely to be directly impacted by the project. The estimated extent of occurrence of this TEC is 21,841 km^2. and area of occurrence 11,200 km^2. Given that, approximately 0.002% and 0.003% of this TEC's estimated extent of occurrence and area of occurrence respectively would be directly impacted by the project. The estimated total current extent of this TEC is 38,388 ha, of which 0.1% is likely to be directly impacted by the project. Potential indirect impacts would include edge effects and potential for increased weed invasion adjacent to the easement, potential changes to fire regimes in surrounding vegetation as a result of management for asset protection, potential for introduction of weeds, diseases and pathogens in the construction phase and operation phase by use of designated access tracks by unclean vehicles.
• the extent that the proposed impacts are likely to contribute to further environmental degradation or the disruption of biotic processes (Principle 2) of the TEC by: • estimating the size of any remaining, but now isolated, areas of the TEC; including areas of the TEC within 500 m of the development footprint or equivalent area for other types of proposals • describing the impacts on connectivity and fragmentation of the remaining areas of TEC measured by: • distance between isolated areas of the TEC, presented as the average distance if the remnant is	The TEC is comprised of PCTs 266, 268, 277, 278, 280, 283, 352 and 1330 within the project footprint along the 360 km generally linear project footprint. These PCTs are mapped variably on either side of the proposed easement. The project would impact on 10% of the total area of TEC within the project footprint, and as such would retain some connectivity between adjacent patches. The distance between existing isolated areas of the TEC within the project footprint averages 48 m. If removed, the distance between isolated areas of the TEC within the project footprint averages 67 m.	The TEC is comprised of PCTs 952, 953, 1097, 1107 and 1196 within the project footprint along the 360 km linear project footprint. These PCTs are mapped variably on either side of the indicative disturbance area. The project would directly impact on 21% of the total area of this TEC within the project footprint, and as such would retain some connectivity between adjacent patches. The distance between existing isolated areas of the TEC within the project footprint averages 10.8 m. If removed, the distance between isolated areas of the TEC within the project footprint averages 163.4 m.

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland*	*Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions*
retained AND the average distance if the remnant is removed as proposed, and • estimated maximum dispersal distance for native flora species characteristic of the TEC, and • other information relevant to describing the impact on connectivity and fragmentation, such as the area to perimeter ratio for remaining areas of the TEC as a result of the development • describing the condition of the TEC according to the vegetation integrity score for the relevant vegetation zone(s) (Section 4.3). The assessor must also include the relevant composition, structure and function condition scores for each vegetation zone.	The area to perimeter ratio of existing areas of the TEC within the project footprint averages 0.3. If removed, the area to perimeter ratio of the TEC within the project footprint averages 0.8. The Community has been extensively cleared throughout its range and remnants typically are small, isolated, highly fragmented, occur in predominantly cleared landscapes and exhibit highly modified understoreys (TSSC 2020). Many overstorey trees characteristic of this TEC are very old and there is a general lack of regeneration of overstorey trees, dying trees are not being adequately replaced across the range of the ecological community (Reid & Landsberg 2000 as cited in TSSC 2020). Including associated PCT's within 500 m of the project footprint, the average patch size of the TEC is 4.6 ha (range <1 sqm to 495.3 ha). The project may alter the current connectivity or increase fragmentation of the remaining areas of the TEC, due to direct impacts of clearing and long-term impacts to vegetation condition are likely. The project is likely to directly impact 311.78 ha of the TEC, the current VI scores average 17.2 and ranges from 0.6 – 75.8. Future VI scores for each impact zone are shown in the table below: Disturbance area zone / Min VI / Max VI / Mean VI TCZ / 0.00 / 0.00 / 0.00 ECZ / 0.50 / 34.40 / 12.59 HTZ / 1.00 / 74.1 / 31.39 All / 0.00 / 74.1 / 13.07	The area to perimeter ratio of existing areas of the TEC within the project footprint averages 0.1. If removed, the area to perimeter ratio of the TEC within the project footprint averages 0.5. Including associated PCT's within 500 m of the project footprint, the average patch size of the TEC is 3.2 ha (range <1 sqm to 64.4 ha). Fragmentation of habitat and disruption of ecological processes contribute to a large reduction in the ecological function of this TEC (Clarke 2000). The project may alter the current connectivity or increase fragmentation of the remaining areas of the TEC, due to direct impacts of clearing and long-term impacts to vegetation condition are likely. Given the project would directly impact 37.42 ha of the TEC, the current VI scores average 18.2 and ranges from 5.6 – 34.5. Future VI scores for each impact zone are shown in the table below: Disturbance area zone / Min / Max / Mean TCZ / 0.00 / 0.00 / 0.00 ECZ / 2.10 / 20.70 / 8.58 HTZ / 5.60 / 66.40 / 40.14 All / 0.00 / 66.40 / 13.10 TEC areas broken up by condition are given in the table below: Vegetation condition / Total impacted area (ha) / Impacted condition zone as proportion of TEC extent (%)

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<table>
<tr><th>Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)</th><th>White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland</th><th>Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions</th></tr>
<tr><td></td><td>TEC areas broken up by condition are given in the table below:<table><tr><th>Vegetation condition</th><th>Total impacted area (ha)</th><th>Impacted condition zone as proportion of TEC extent (%)</th></tr><tr><td>Very high</td><td>4.66</td><td>1.49%</td></tr><tr><td>High</td><td>44.69</td><td>14.33%</td></tr><tr><td>Moderate</td><td>29.32</td><td>9.41%</td></tr><tr><td>Low</td><td>95.13</td><td>30.51%</td></tr><tr><td>Very low</td><td>137.97</td><td>44.25%</td></tr><tr><td>Total</td><td>311.78</td><td>100%</td></tr></table></td><td><table><tr><td>Very high</td><td>0.26</td><td>0.69%</td></tr><tr><td>High</td><td>28.42</td><td>75.95%</td></tr><tr><td>Moderate</td><td>0.42</td><td>1.12%</td></tr><tr><td>Low</td><td>2.72</td><td>7.27%</td></tr><tr><td>Very low</td><td>5.6</td><td>14.97%</td></tr><tr><td>Total</td><td>37.42</td><td>100%</td></tr></table></td></tr>
<tr><td>5. The assessor may also provide new information that demonstrates that the principle identifying that the TEC is at risk of an SAII is not accurate.</td><td>Not applicable.</td><td>Not applicable.</td></tr>
<tr><td>Likely SAII assessment outcome against relevant principles.</td><td>Due to the proposed clearing of better condition areas of the community, the project would add to the reduction in ecological function experienced by this community historically. The project would contribute to a further decline of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline.
However, there are extensive areas of this community that remain and if impacts were substantially limited to lower condition remnants this might result in a 'non-significant risk' of extinction determination. This would be due to the relatively large expanses of the community which remain and restriction of most impacts to lower condition areas.</td><td>It is noted that 8.1 ha of impacts for this community would occur within the HTZ zone where a limited VI loss is predicted. If TCZ and ECZ clearing within higher condition areas can be further limited, it should significantly reduce the risk of an SAII conclusion.

However, without additional mitigation, the project is likely to be deemed a significant risk to the ecological community becoming extinct because it will cause a further decline of the ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline. In addition, primarily for better condition areas of the community subject to ECZ clearing, the project would add to the reduction in ecological function experienced by this community historically.</td></tr>
</table>

2.1.2 Coolac-Tumut Serpentinite Shrubby Woodland and Monaro Tableland Temperate Grassy Woodland

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	***Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions***	***Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion***
Impact summary	The project would result in direct impacts to a total of 1.42 ha of *Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions.* This area constitutes a relatively even mix of high moderate and low condition classes and excludes areas mapped as Category 1 lands. All impacts (100%) are within the Total Clearing Zone where total VI loss is accounted for. Potential indirect impacts to the TEC include: • Inadvertent impacts on adjacent vegetation. • Transport of weeds and pathogens from the site to adjacent vegetation. • Changed fire regimes. Prescribed impacts to the TEC include: • Impacts to habitat connectivity.	The project would result in direct impacts to a total of 1.7 ha of *Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion.* This area constitutes all condition classes including very low and low condition class which make up 90% of the stated impact area. Potential indirect impacts to the TEC include: • Inadvertent impacts on adjacent vegetation. • Transport of weeds and pathogens from the site to adjacent vegetation. • Changed fire regimes. Potential prescribed impacts to the TEC include: • Impacts to habitat connectivity. • Impacts on water quality, waterways, and hydrological processes.
1. The assessor is required to provide further information in the BDAR or BCAR regarding the impacts on each TEC at risk of an SAII. This must include the action and measures taken to avoid the direct and indirect impact on the TEC at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR and BCAR.	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions TEC aligns with PCT 301 within the Inland Slopes IBRA subregion. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to TECs include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of TEC impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying TEC remnants and their existing condition, habitat features and important connectivity corridors.	Two PCTs (PCTs 679 and 1191) within the project footprint align with the Monaro Tableland Cool Temperate Grassy Woodland TEC. The TEC occurs within the Crookwell IBRA subregion. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to TECs include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of TEC impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying TEC remnants and their existing condition, habitat features and important connectivity corridors.

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Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	***Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions***	***Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion***
	• Establishment of biodiversity exclusion zones in retained vegetation to demarcate high condition TEC remnants as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of TECs within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20).	• Establishment of biodiversity exclusion zones in retained vegetation to demarcate high condition TEC remnants as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of TECs within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current status of the TEC including:		
• evidence of reduction in geographic distribution (Principle 1, clause 6.7(2)(a) BC Regulation) as the current total geographic extent of the TEC in NSW AND the estimated reduction in geographic extent of the TEC since 1970 (not including impacts of the proposal)	**Information provided by EES (28/03/2022)** ***Principle 1 SAII = No*** *Does not meet reduction in geographic extent of ≥90% since 1750 or ≥80% since 1970.* Principle 1 does not apply to this TEC. Associated with soils derived from serpentinite geology (Benson *et al.* 2010, Armstrong *et al.* 2013, NSWSC 2015), the geographic extent of this TEC is highly restricted. Based on serpentinite mapped in the Coolac/Gundagai/Tumut area in the NSW Statewide Geological Database Geology 250k (2001) layer as a surrogate for the distribution of this TEC, the upper bound for Area of Occupancy (AOO) is estimated at 460 km^2/46,000 ha (NSWSC 2015). It is estimated that less than 6,320 ha of this TEC remains,	***Principle 1 SAII = Yes*** *Meets reduction in geographic extent of ≥90% since 1750 or ≥80% since 1970* *Final Determination: Monaro Tableland Cool Temperate Grassy Woodland has undergone a very large reduction in distribution. Based on an analysis of maps produced by Gellie (2005) and Keith and Bedward (1999), together with maps depicting more recent vegetation clearing (Danaher 2011) the NSW Threatened Species Scientific Committee estimates that less than 15,660 ha of Monaro Tableland Cool Temperate Grassy Woodland remain, approximately 5% of its estimated pre-1750 distribution of 295,500 ha.*

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions*	*Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*
	which represents approximately 14% of its estimated pre-1750 distribution of 46,000 ha (NSWSC 2019) and therefore does not the criterion for reduction in geographic extent of ≥90% since 1750. TEC distribution data from 1970 is not available and therefore the estimated reduction in geographic extent of the TEC since 1970 has not been estimated.	Based on an analysis of mapping (produced by Keith and Bedward 1999, Gellie 2005 and Danaher 2011 (cited in NSWSC 2019) It is estimated that less than 15,660 ha of this TEC remain, which represents approximately 5% of its estimated pre-1750 distribution of 295,500 ha (NSWSC 2019) which therefore meets the criterion for reduction in geographic extent of ≥90% since 1750. Moreover, ongoing threats to this TEC are likely to cause continuing declines in geographic distribution (NSWSC 2019). TEC distribution data from 1970 is not available and therefore the estimated reduction in geographic extent of the TEC since 1970 has not been estimated.
• extent of reduction in ecological function for the TEC using evidence that describes the degree of environmental degradation or disruption to biotic processes (Principle 2, clause 6.7(2)(b) BC Regulation) indicated by: ▪ change in community structure ▪ change in species composition ▪ disruption of ecological processes ▪ invasion and establishment of exotic species ▪ degradation of habitat, and ▪ fragmentation of habitat	**Information provided by EES (28/03/2022)** ***Principle 2 SAII = Yes*** *Meets reduction in ecological function of ≥90% since 1750 or ≥80% since 1970* *Final Determination = Collectively, these threats indicate a large reduction in ecological function [changes in community structure and composition, degradation and fragmentation of habitat, and invasion and establishment of exotic species].* Principle 2 applies to this TEC. Change in community structure: The structure of this TEC varies between tall open heath and low sparse woodland and is usually dominated by scattered taller trees, small trees, shrubs and grasstrees (NSWSC 2015). The ground is generally rocky and the vegetative ground cover is sparse on exposed slopes and dense in creek lines (NSWSC 2015). Larger trees, a range of shrub species and dense to mid-dense ground cover can be found where the soil is deeper in protected gullies and foot slopes (Benson *et al.* 2010). This TEC has been extensively cleared and heavily impacted by weed invasion and grazing which has led to changes in community structure (NSWSC 2015). Change in species composition: The species composition of this TEC has also changed as a result of clearing, weed invasion as well as grazing by domestic	***Principle 2 SAII = Yes*** *Meets reduction in ecological function of ≥90% since 1750 or ≥80% since 1970* *Final Determination: Remnants are typically small and fragmented and are thus susceptible to attrition via clearing for routine land management practices. The threats to Monaro Tableland Cool Temperate Grassy Woodland listed above [changes in rainfall and temperature, grazing, weed invasion, vegetation clearing] are ongoing and likely to cause continuing declines in geographic distribution and disruption of biotic processes or interactions.* Change in community structure: The structure of this TEC varies from woodland to low open woodland and is characterised by a sparse to very sparse tree stratum and a continuous herbaceous ground stratum is usually present (NSWSC 2019). The tree stratum becomes shorter and sparser with reduced moisture availability or increasing waterlogging of soil (NSWSC 2019). Trees may be absent as a result of clearing for agriculture and failure to regenerate as a result of excessive by exotic herbivores domestic stock (NSWSC 2019). Similarly, the continuous herbaceous ground stratum is highly variable in cover as a function of grazing pressure from native and exotic herbivores and domestic

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	***Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions***	***Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion***
	livestock and exotic pest animals (Benson *et al.* 2010, Armstrong *et al.* 2013, NSWSC 2015). Disruption of ecological processes: This has led to changes in community structure and composition, degradation and fragmentation of habitat, and invasion and establishment of exotic species. Collectively, these threats indicate a substantial reduction in ecological function (NSWSC 2015). Invasion and establishment of exotic species: This TEC is heavily affected by the invasion and establishment of high threat weeds particularly in heavily grazed locations and gullies (Benson *et al.* 2010) and a range of exotic forbs commonly occur within this TEC (Armstrong *et al.* 2013). Degradation of habitat: The adverse effects of grazing by domestic livestock and exotic pest animals such as rabbits, hares, horses, deer, pigs and goats on the structure and floristic composition of plant communities in the upper Murrumbidgee catchment in general have been noted (Armstrong *et al.* 2013). Fragmentation of habitat: Serpentinite rock outcrops and surrounding landscapes have been extensively cleared for grazing and agriculture. Consequently, this TEC is highly fragmented and most remaining stands are small and with high edge to area ratios (NSWSC 2015).	livestock (NSWSC 2019). This TEC may develop a shrub or bracken thickets as a result of extensive disturbance to the ground stratum following excessive grazing (NSWSC 2019). Change in species composition: The loss of trees as a result of clearing for agriculture and grazing by domestic livestock, in cases where the development of a shrub and bracken thickets has developed has plainly altered species composition of this TEC. Similarly, grazing pressure has resulted in the partial or complete replacement of native tussock forming grass, herb and sub-shrub species (Costin 1954 as cited in NSWSC 2019) and a highly variable species composition of the ground stratum (NSWSC 2019). Disruption of ecological processes: Given that this TEC has undergone a very large reduction in geographic distribution and experienced a very large degree of environmental degradation it follows that this TEC has also experienced a very large disruption to ecological processes (NSWSC 2019). Moreover, ongoing threats to this TEC are likely to cause continuing disruption to ecological processes (NSWSC 2019). Invasion and establishment of exotic species: Remnants of this TEC are subject to invasion and establishment of an extensive range of exotic grass, herb and shrub species (NSWSC 2019) that include a range of high threat weeds. Degradation of habitat: This TEC has been impacted by the grazing by domestic livestock since the 1820s and is subject to ongoing grazing pressure from native and exotic herbivores as well as domestic livestock (NSWSC 2019). Degradation of the ground stratum in this TEC has been associated with well-documented impacts of grazing including the erosion, compaction and nutrient enrichment of the topsoil (NSWSC 2019). Fragmentation of habitat: Remnants of this TEC are typically small and fragmented and are thus susceptible to continued clearing for routine agricultural land management practices (NSWSC 2019).

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions*	*Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*
• evidence of restricted geographic distribution (Principle 3, clause 6.7(2)I BC Regulation), based on the TEC's geographic range in NSW according to the: ▪ extent of occurrence ▪ area of occupancy, and ▪ number of threat-defined locations	**Information provided by EES (28/03/2022)** ***Principle 3 SAII = Yes*** *Number of locations = Unknown* *Estimated AOO = 460 km^2* *Estimated EOO = 1,721 km^2* *Estimated total current extent = 6,320 ha* Principle 3 applies to this TEC. This TEC is associated with soils derived from serpentinite geology (Benson *et al.* 2010, Armstrong *et al.* 2013, NSWSC 2015). As a result, the geographic distribution of this TEC is highly restricted (NSWSC 2015). There has been major alteration to the geographic distribution of this TEC due to weed invasion, grazing and clearing Benson *et al.* (2010). The estimated extent of occurrence of this TEC is 1,721 km^2. The estimated area of occupancy of this TEC is 460 km^2. However, due to extensive clearing throughout the range of this TEC the area of occupancy of is much less that this figure but is unlikely to be <10 km^2. Data on the number of threat-defined locations for this TEC is not recorded. The estimated total current extent of this TEC is 6,320 ha. This TEC is not protected within any conservation reserve (NSWSC 2015).	***Principle 3 SAII = No*** *Number of locations = Unknown* *Estimated AOO = 5,300 km^2* *Estimated EOO = 13,780 km^2* *Estimated total current extent = 15,660 ha* The estimated extent of occurrence of this TEC is 13,780 km^2. The estimated area of occupancy of this TEC is 5,300 km^2. Data on the number of threat-defined locations for this TEC is not recorded. The TEC is known or predicted within 11 IBRA Subregions of the South Eastern Highlands Bioregion with no geographic restrictions within any subregion (OEH 2022). The estimated total current extent of this TEC is 15,660 ha. Approximately 1,293 ha of this TEC protected in conservation reserves, 85 ha is preserved in perpetuity under conservation agreements and 147 ha occurs in Crown Reserves representing 1,525 ha under reservation. which represents <1% of the pre-1750 extent of this TEC (NSWSC 2019).
• evidence that the TEC is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation). • known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site	Principle 4 does not currently apply to TEC's (DPE 2022), however: • There are no known reproductive characteristics that severely limit the ability to increase the existing population on or occupy new habitat on a biodiversity stewardship site. • The TEC is reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site (ie soils derived from serpentinite geology formations (Benson *et al.* 2010, Armstrong *et al.* 2013, NSWSC 2015)), therefore the success is likely to be dependent on the location of the site. However, the TEC is expected to be responsive to management. • Notwithstanding the reliance of this TEC on abiotic habitats above, the ecology for this TEC is known, Key Threatening Processes can reasonably be controlled within a biodiversity stewardship site (ie	Principle 4 does not currently apply to TEC's (DPE 2022), however: • There are no known reproductive characteristics that severely limit the ability to increase the existing population or occupy new habitat on a biodiversity stewardship site. • The TEC is not reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site. However, the success is likely to be dependent on the location of the site. • The ecology is known, Key Threatening Processes can reasonably be controlled within a biodiversity stewardship site and the TEC is expected to be responsive to management.

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions*	*Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*
• the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or • life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	'Clearing of native vegetation', 'Invasion of native plant communities by exotic perennial grasses', 'Competition and grazing by the feral European rabbit', 'Competition and habitat degradation by Feral Goats, *Capra hircus* Linnaeus 1758', 'Habitat degradation and loss by Feral Horses (brumbies, wild horses), *Equus caballus* Linnaeus 1758', 'Herbivory and environmental degradation caused by feral deer', 'Predation and hybridisation by Feral Dogs, *Canis lupus familiaris'*, 'Predation by feral cats', 'Predation by the European Red Fox', 'Predation, habitat degradation, competition and disease transmission by Feral Pigs (*Sus scrofa*) ', 'Ecological consequences of high frequency fires', 'Loss of Hollow-bearing Trees', 'Removal of dead wood and dead trees') and the TEC is expected to be responsive to management.	
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a TEC for a criterion listed in Subsection 9.1.1(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this TEC for a criterion listed in Subsection 9.1.1(2.).	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this TEC for a criterion listed in Subsection 9.1.1(2.).
4. In relation to the impacts from the proposal on the TEC at risk of an SAII, the assessor must include data and information on:		
• the impact on the geographic extent of the TEC (Principles 1 and 3) by estimating the total area of the TEC to be impacted by the proposal: ▪ in hectares, and ▪ as a percentage of the current geographic extent of the TEC in NSW. Data and	Approximately 33.10 ha of Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions TEC occurs in the project footprint (Figure 6-1). The majority (40%) of this TEC in the project footprint is in a low condition, 23% is in a moderate condition and 37% is in high condition. No other condition classes were recorded. Of that, a total of 1.42 ha is likely to be directly impacted by the project. The best estimate of the extent of occurrence for this TEC is 1,721 km^2 (NSWSC 2015) and area of occurrence 460 km^2. Given that, approximately 0.0008% and 0.003% of this TEC's estimated extent of occurrence and area of occurrence respectively is likely to be directly impacted by the project. The	Approximately 23.32 ha of *Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion* CEEC occurs in the project footprint (Figure 6-1). The majority (58%) of this CEEC in the project footprint is in Low condition, 10% is in moderate condition and 32% is in High to Very high condition. Of that, a total of 1.7 ha is likely to be directly impacted by the project. The best estimate of the extent of occurrence for this TEC is 13,780 km^2 and area of occupancy is 5,300 km^2. Given that, approximately 0.0001% and 0.0003% of this TEC's estimated extent of occurrence and area of occurrence respectively is likely to be directly impacted by the project.

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions*	*Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*
information should include direct impacts (ie from clearing) and indirect impacts where partial loss of the TEC is likely as a result of the proposal. The assessor should consider for example, changes to fire regime (frequency, severity), hydrology, pollutants, species interactions (increased competition, changes to pollinators or dispersal), fragmentation, increased edge effects and disease, pathogens and parasites, which are likely to contribute to the loss of flora and/or fauna species characteristic of the TEC.	estimated total current extent of this TEC is 6,320 ha, of which 0.02% is likely to be directly impacted by the project. Potential indirect impacts would include edge effects and potential for increased weed invasion adjacent to the easement, potential changes to fire regimes in surrounding vegetation as a result of management for asset protection, potential for introduction of weeds, diseases and pathogens in the construction phase and operation phase by use of designated access tracks by unclean vehicles.	The estimated total current extent of this TEC is 15,660 ha, of which less than 0.01% would be directly impacted by the project. Potential indirect impacts would include edge effects and potential for increased weed invasion adjacent to the easement, potential changes to fire regimes in surrounding vegetation as a result of management for asset protection, potential for introduction of weeds, diseases and pathogens in the construction phase and operation phase by use of designated access tracks by unclean vehicles.
• the extent that the proposed impacts are likely to contribute to further environmental degradation or the disruption of biotic processes (Principle 2) of the TEC by: • estimating the size of any remaining, but now isolated, areas of the TEC; including	The TEC is comprised of PCT 301, predominantly situated adjacent to Red Hill State Forest within the project footprint. The project would directly impact on 4% of the TEC within the project footprint. Given the variable terrain at this location, transmission lines would span across large sections of this TEC without the need for clearing. As such the project would have a negligible impact on connectivity between adjacent patches. The distance between existing isolated areas of the TEC within the project footprint averages 4,322 m. If removed, the distance between isolated areas of the TEC within the project footprint averages 4,863 m.	The TEC is comprised of PCTs 679 and 1191 within the project footprint along the 360 km generally linear project footprint. These PCTs are mapped variably on either side of the proposed easement. The project would directly impact 7.2% of the total area of this TEC within the project footprint, and as such would have negligible impact on connectivity between adjacent patches. The average distance between existing isolated areas of the TEC within the project footprint averages 727.8 m and is unlikely to change. In general, the evidence available indicates that the most likely potential dispersal rate for Eucalypts is equivalent to about 1–2 m per year. Over

Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions*	*Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*
areas of the TEC within 500 m of the development footprint or equivalent area for other types of proposals • describing the impacts on connectivity and fragmentation of the remaining areas of TEC measured by: • distance between isolated areas of the TEC, presented as the average distance if the remnant is retained AND the average distance if the remnant is removed as proposed, and • estimated maximum dispersal distance for native flora species characteristic of the TEC, and • other information relevant to describing the impact on connectivity and fragmentation, such as the area to perimeter ratio for remaining areas of the TEC as a result of the development • describing the condition of the TEC according to the vegetation integrity score for the relevant vegetation zone(s) (Section 4.3). The assessor must also include the relevant composition,	The area to perimeter ratio of existing areas of the TEC within the project footprint averages 0.1. If removed, the area to perimeter ratio of the TEC within the project footprint averages 0.4. Including associated PCT's within 500 m of the project footprint, the average patch size of the TEC is 34.3 ha (range 4.6 sqm to 259.9 ha). The project is unlikely to alter the current connectivity or increase fragmentation of the remaining areas of the TEC, due to the small scale nature of the direct impacts of clearing and long-term impacts to vegetation condition. Given the project would directly impact 1.42 ha of the TEC, the current VI score is 46.1. Future VI scores for each impact zone are shown in the table below: Disturbance area zone | Min | Max | Mean TCZ | 0.00 | 0.00 | 0.00 ECZ | N/A | N/A | N/A HTZ | N/A | N/A | N/A TEC areas broken up by condition are given in the table below: Vegetation condition | Total impacted area (ha) | Impacted condition zone as proportion of TEC extent (%) Very high | 0 | 0% High | 0.37 | 26.06% Moderate | 0.42 | 29.58% Low | 0.63 | 44.37% Very low | 0 | 0%	decades, this is likely to occur as a series of stepwise events, associated with disturbances such as bushfires (Booth 2017). The area to perimeter ratio of existing areas of the TEC within the project footprint averages 0.2. If removed, the area to perimeter ratio of the TEC within the project footprint averages 0.3. Including associated PCT's within 500 m of the project footprint, the average patch size of the TEC is 1.2 ha (range 3.8 sqm to 5.4 ha). The project is unlikely to alter the current connectivity or increase fragmentation of the remaining areas of the TEC, due to the small-scale nature of the direct impacts of clearing and long-term impacts to vegetation condition. The project is likely to directly impact 1.7 ha of the TEC, the current VI scores average 31.2 and ranges from 5.5 – 48.2. Future VI scores for each impact zone are shown in the table below: Disturbance area zone | Min VI | Max VI | Mean VI TCZ | 0.00 | 0.00 | 0.00 ECZ | 0.40 | 32.80 | 16.86 HTZ | 32.30 | 51.10 | 43.03 All | 0.00 | 51.10 | 18.31 TEC areas broken up by condition are given in the table below: Vegetation condition | Total impacted area (ha) | Impacted condition zone as proportion of TEC extent (%) Very high | 0 | 0%

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Additional impact assessment provisions for TEC at risk of SAII (Section 9.1.1 of the BAM)	*Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions*	*Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*
structure and function condition scores for each vegetation zone.	Total 1.42 100%	High 0.07 4.11% Moderate 0.10 5.88% Low 1.52 89% Very low 0 0% Total 1.7 100%
5. The assessor may also provide new information that demonstrates that the principle identifying that the TEC is at risk of an SAII is not accurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	Given the limited and sporadic extent of impacts it is considered very unlikely that the project would be considered as contributing significantly towards the risk of extinction to the community. The project is not expected to reduce the extent of occurrence or area of occupation of this community (the relevant SAII principle for assessment) under scales used for their calculation.	Given the limited extent of impacts and the retention of some values in areas to be cleared (no areas expected to be totally cleared) it is considered unlikely that the project would be considered as contributing significantly towards the risk of extinction to the community. Additional avoidance of better condition areas would reduce the likelihood of an SAII even further.

2.2 Threatened flora

2.2.1 *Prasophyllum bagoense* and *Prasophyllum innubum*

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Prasophyllum bagoense* Bago Leek Orchid**	***Prasophyllum innubum* Brandy Marys Leek-Orchid**
Impact summary	The project would result in direct impacts to a total of 31.9 ha of potential habitat for Bago Leek Orchid, the vast majority of which is assumed presence. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 0.25 ha of Brandy Marys Leek-Orchid habitat in high condition, all of which is assumed presence. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Prasophyllum bagoense* is a tuberous ground orchid *f*ound in grassy, low heathland dominated by *Poa clivicola, Epacris gunnii* and *E. celata* on a subalpine plain bordered by Snow Gum and Mountain Gum According to the DPE (2014), there is a single population of at least 2,300 individuals in the Tumbarumba area (DPIE 2021). The species was recorded during field surveys within the Bago State Forest approximately 130 metres from the project footprint. Six individuals were recorded by NSW Forestry Corporation in 2016 within the project footprint in Bago State Forest. Suitable habitat for the species is situated within the project footprint and species presence has been assumed within these habitats including within habitats that are treed and may be less heathy in some areas (potentially sub-optimal habitat). Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1).	*Prasophyllum innubum* occurs in Bago State Forest and apparently also on adjacent Crown forestry lease and private freehold, it is not known to occur in any conservation reserves (DPE 2008). The species is known only from a highly restricted habitat on the treeless McPhersons Plain in Bago State Forest, an area that includes sub-alpine grassland, sphagnum bogs, and open heathland, at an elevation of 1,100 m. The species has a preference for grassland with moderately boggy ground, though not sphagnum-dominated areas. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Design refinements to avoid impacts where practicable (B32) • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1).

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum bagoense* Bago Leek Orchid	*Prasophyllum innubum* Brandy Marys Leek-Orchid
	• Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitat as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the:	***Principle 1 SAII = No*** According to the DPE (2014), there is a single population of 400 – 600 individuals in the Tumbarumba area on land covered by	***Principle 1 SAII = No*** There is insufficient data available in publicly available resources and accessible peer reviewed articles to estimate a

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum bagoense* Bago Leek Orchid	*Prasophyllum innubum* Brandy Marys Leek-Orchid
▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	a Crown Lease on State Forest on the Southern Tablelands of NSW. A comprehensive survey was conducted in 2016 of the treeless plains near historic records of this species and around 600 individual plants were located; a large increase on the 50 plants known at the time of listing as threatened (DPE 2021). In 2020, more detailed surveys in the same area showed the population to number at least 2,300 individuals (DPE 2021a), indicating a possible increase or fluctuation in population. However, there is no conclusive evidence that the species is stable or declining (DPE 2014). Key threats (DPIE 2022) to the species, which are likely to have contributed to its low population are: • Pest animals: Feral grazing animals and trampling (horses and pigs) • Weed invasion: *Hypericum perforatum (*St John's Wort) • Demographic Threats: Small population size • Overgrazing: Domestic stock • Land management practices: Uncertainty of future land management practices.	decline in population of the species in NSW in the past 10 years or three generations. Population size of this species fluctuates between 0 and 200 visible plants in eight small populations, with one population now thought to be extinct. The population has declined from around 400 plants since 2004 (TSSC 2014). There is insufficient data to determine whether the reduction is very severe, severe or substantial over the given time period (TSSC 2014). Surveys have shown a decline in mature plants over the last five years due to effects of grazing, changes to hydrology and drought conditions. It is expected that continued decline is likely due to ongoing and potential threats. Climate change is also expected to hasten this decline (TSSC, 2014). The geographic distribution of this species is precarious due to the threats currently impacting on the species, as well as potential threats (TSSC 2014a). Key threats (TSSC 2014) to the species, which are likely to have contributed to its low population are: • Logging, mining and mineral fossicking • Hydrological changes due to dam construction. • Grazing by domestic stock and feral horses (*Equus caballus*). • Soil disturbance by feral pigs (*Sus scrofa*) • Weed invasion by *Rubus fruticosus* and *Holcus lanatus*. • Inappropriate land management practices.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and	***Principle 2 SAII = No*** According to the DPE (2014), there is a single population in the Tumbarumba area. The number of mature individuals is estimated to be low between 400- 600 individuals (DPE, 2014; DPIE, 2022). In 2020, detailed surveys recorded a population of at least 2,300 individuals (DPE 2021). However, due to fluctuating numbers of aboveground material over seasons it is	***Principle 2 SAII = No*** In NSW this species is known from a single population comprising about seven small colonies. Its population size now fluctuates between 0 and 200 visible plants (TSSC 2014). The species occurs in Bago State Forest and apparently also on adjacent Crown forestry lease and private freehold, it is not known to occur in any conservation reserves (DPE 2008).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum bagoense* Bago Leek Orchid	*Prasophyllum innubum* Brandy Marys Leek-Orchid
▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	difficult to determine if the population is stable or declining (TSSC 2014). There is no conclusive evidence that the species is stable or declining, given the fluctuation of aboveground material possibly being dependent on seasons (DPE 2014). The species information available in BioNet and other reliable/peer reviewed information about the species is limited. BioNet record data contains 399 records of the species (DPE 2022). Of these records, the most recent record is from 2021, with most records surveyed in 2016. None of these records have had their location displayed, and thus it is difficult to confidently identify a decline in the population over the last decade (DPE 2022). According to the DPE (2014), there is a single population of at least 2,300 individuals in the Tumbarumba area (DPIE 2021). The NSW Scientific Committee (TSSC 2014) describes the above ground material as fluctuating from season to season. The species is insect-pollinated and not known to reproduce vegetatively thus the species fluctuates relying on seed germination for recruitment (DPE 2014)	Although, DPE (2022) describes how the species is more common than current records suggest, and it has been misidentified as *Prasophyllum alpestre* (Mauve Leek Orchid). Population size of this species fluctuates between 0 and 200 visible plants. The population has declined from around 400 plants since 2004 (TSSC 2014). No estimates are available on the number of mature individuals for each sub population. Between 0 and 200 individuals were recorded in all seven known colonies (TSSC 2014). The number of mature individuals is not given.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = Yes*** *Area of Occupancy (ha) = < 10 km^2* *Extent of Occurrence (ha) = < 100 km^2* *No. Threat-defined locations = <= 3 locations* *Extreme fluctuations in number = No information* The size and area inhabited by the existing population of this species is limited in geographic range. According to DPE (2014), the single known population in NSW is 4 ha in area. The extent of occurrence and area of occupancy are estimated to be approximately 4 km^2.	***Principle 3 SAII = Yes*** *Extent of Occurrence (ha) = < 100 km^2* *Area of Occupancy (ha) = < 10 km^2* *No. Threat-defined locations = <= 3 locations* Extent of occurrence is listed as 4 km^2 (TSSC, 2014). Area of occupancy is 1.5 ha (0.015 km^2) (TSSC, 2014). The distribution of this species is associated with the Alpine Sphagnum Bogs and Associated Fens EPBC Act-listed threatened ecological community. The species has no Threat Defined Locations (TSSC 2014).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Prasophyllum bagoense* Bago Leek Orchid**	***Prasophyllum innubum* Brandy Marys Leek-Orchid**
	Vegetation associations at known sites are typically sub-alpine grassy plain and wetland at an elevation of about 1,100 m (DPE 2014). The current distribution of this species is known, further identification of threat-defined locations is unlikely to occur. However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. The numbers of aboveground *Prasophyllum bagoense* fluctuate, possibly dependent on season (TSSC 2012 cited in TSSC 2014).	There has been an observed decline in the number of mature individuals, from 400 to fluctuations of visible plants between 0 and 200 plants, over the five years leading up to 2014 (TSSC 2014).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: • known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site • the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or • life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = No*** The species is known to have reproductive characteristics that could severely limit the ability to increase the existing population. It is understood that *Prasophyllum bagoense* is insect-pollinated, relying on seed germination for recruitment (TSSC 2014). BioNet states that the species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats (DPIE 2022). There is no known critical habitat for this species. This species is threatened by a number of KTPs listed under the *Biodiversity Conservation Act 2016*, including changing hydrology, disturbance by domestic and feral animals and weed invasion (TSSC 2014).	***Principle 4 SAII = No*** This species has been assigned to the Data-deficient species management stream under the Saving our Species (SoS) program (OEH 2022a). A priority action under this program is to conduct genetic research to confirm whether morphologically similar species *Prasophyllum innubum* and *P. alpestri* are actually distinct species (OEH 2022a). The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. BioNet states that the species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). There is no known critical habitat for this species although this species is associated with the Alpine Sphagnum Bogs and Associated Fens EPBC Act-listed threatened ecological community (DPE 2022b; TSSC 2014). The life history traits of this species are not well known.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following:	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following:

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum bagoense* Bago Leek Orchid	*Prasophyllum innubum* Brandy Marys Leek-Orchid
	• The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	• The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Prasophyllum bagoense* was detected within the project footprint within the Snowy Mountains IBRA subregion. There are 421 historic records of *Prasophyllum bagoense* (645 estimated individuals) within and adjacent to the project footprint (NSW Forestry Corporation 2020). Six historic (2016) records of the species occur within the project footprint within Bago State Forest. Field surveys undertaken within suitable habitats recorded individuals 130 m west of the project footprint but not within it. Despite this, the species is considered likely or potentially to occur within suitable habitats located within the project footprint given the presence of historic records and suitable habitats. The species has been assumed present within these habitats. Given species presence is assumed within suitable habitats, and the limited information available on the total population size, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. There are six historic (2016) records of the species within the project footprint.	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for Brandy Marys Leek-orchid was detected within the project footprint within the Snowy Mountains IBRA subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within potential habitat. As such a percentage present in the subpopulation of the total population cannot be attained. However, it is assumed to have a high likelihood of occurrence due to presence of suitable habitat and there are four nearby records of the Brandy Marys Leek-orchid, with the closest record only 600 m outside the project footprint (DPE 2022). All records are located in proximity to the southern extent of the project footprint in PCT 1124 paddocks (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum bagoense* Bago Leek Orchid	*Prasophyllum innubum* Brandy Marys Leek-Orchid
	Species presence has been assumed within suitable predicted habitat within the project footprint. The total extent of suitable habitat to be directly impacted by the project is 31.9 ha. Suitable habitat in the surrounding landscape containing numerous records of Bago Leek Orchid individuals would be retained (DPE 2022).	The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Species presence has been assumed within potential habitat. The total area of this species suitable habitat to be directly impacted by the project is 0.25 ha.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ To determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased	The project footprint contains 101.61 ha of suitable habitat, of this the project would impact on 31.9 ha (31%), 98% of which is high condition. The extent of occurrence and area of occupancy of the single known population in NSW is estimated to be approximately 4 km^2 (DPE 2014) however it is not known whether all of the area of potential impact occurs within this area. Therefore, the project could impact an estimated 8% of this species' extent of occurrence. The project would result in the direct impact to 31.9 ha of potentially suitable habitat for this species within the project footprint. There are six historic (2016) records of the species within the project footprint. However, these records do not occur within the clearing footprint. Despite this, the project would impact on potential habitat with potential to support the species. As species presence has been assumed, the total number of individuals that may be impacted cannot be accurately quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by increased threats such as infestation of weeds - St John's wort and *Potentilla recta*, land management practices that do not support conservation,	The species is known from a single population comprising about seven small colonies, totalling about 400 individuals (TSSC 2014). The project footprint contains 8.83 ha of potential habitat, 0.25 ha (3%) of this would be impacted by the project, all of which is in high condition. The extent of occurrence for this species was estimated at 4 km^2 (TSSC 2014), however it is not known whether all of the area of potential impact occurs within this area. Therefore, the project could impact an estimated 0.06% of this species' extent of occurrence. The project would impact 0.25 ha of potential habitat for this species. No individuals of the species are likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, this species is associated with Alpine Sphagnum Bogs TEC and may be affected by modified hydrology of drainage lines within the project footprint and/or changes in use and management of adjacent land, off-road

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum bagoense* Bago Leek Orchid	*Prasophyllum innubum* Brandy Marys Leek-Orchid
competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks), disturbance from vegetation removal and maintenance activities within the clearing footprint.	vehicle activities (access tracks), disturbance from vegetation removal and maintenance within the clearing footprint.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	Confirmation of habitat status through survey and/or further expert advice may remove the likelihood of an SAII finding. Presently, given the project will impact on 31.9 ha of potential habitat, which may equate with up to 8% of the species known range, the project is likely to be deemed a significant risk to the species becoming extinct because it is an impact on the habitat of a species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	Given the project impact would be limited to 0.25 ha of high condition habitat, which equates to approximately 3% of the species known range, the project is unlikely to be deemed a significant risk to the species becoming extinct because it is an impact on the habitat of a species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution. Within the project footprint, 8.58 ha of habitat for this species would remain and if impacts were further avoided and minimised through route refinement (EMM B1) this would likely result in a non-significant risk determination.

2.2.2 *Prasophyllum keltonii* and *Pterostylis oreophila*

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Prasophyllum keltonii* Kelton's Leek Orchid**	***Pterostylis oreophila* Blue-tongued Greenhood**
Impact summary	The project would result in direct impacts to a total of 31.70 ha of potential habitat for Kelton's Leek Orchid, the vast majority of which is assumed presence. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 0.56 ha of Blue-tongued Greenhood habitat, all of which is assumed presence. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Prasopyllum keltonii* is known from a single population, occurring in a small area on the McPhersons Plain in Bago State Forest (DPE 2008c). The species grows on tussock grassland plain, in moisture retentive brown loam at approximately 1,200 m above sea level (Jones 2007). The species was recorded during field surveys within the Bago State Forest approximately 750 metres from the project footprint. Three individuals were recorded by NSW Forestry Corporation in 2016 within the project footprint in Bago State Forest. Suitable habitat for the species is situated within the project footprint and species presence has been assumed within these habitats, including within habitats that are treed and may be less grassy in some areas (potentially sub-optimal habitat). Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-	*Pterostylis oreophila* is known from a few small populations within Kosciuszko National Park and a population in Bago State Forest and adjoining Crown Leases south of Tumut. The species habitat is restricted to areas beside small montane and subalpine streams under tall dense thickets of *Leptospermum grandiflorum* (Mountain Tea Tree), in black oozing mud or less commonly in peaty soils and sphagnum mounds (Jones, 2006, p. 308 cited in TSSC 2012a). This type of habitat occurs throughout much of the upper areas of Kosciuszko National Park. According to TSSC (2014c), this species occurs in the Kiandra and Bago areas in NSW consisting of approximately 90 individuals in total. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Design refinements to avoid impacts where practicable (B32) • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
	siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = No*** In NSW this species is known from a single population, occurring in a small area known as McPhersons Plain in Bago State Forest (DPE 2008c). Its population size was thought to fluctuate between 10 and 250 individuals which is a decline from an estimated 400 plants in 2004 (TSSC 2014b). A comprehensive survey was conducted in 2016 near historic records of this species (DPIE 2021a). Around 300 plants were located; a large increase compared to the 50 plants known at the time of listing as threatened (DPIE 2021a). In 2020, more detailed surveys in the same area showed the population to number at least 1,000 individuals (DPIE 2021a), representing an increase. This species grows on tussock grassland plain, in moisture retentive brown loam at approximately 1,200 m above sea level (Jones 2007). Key threats (TSSC 2014b) to the species, which are likely to have contributed to its low population are: • Grazing: Domestic stock and feral horses (*Equus caballus*) • Pest animals: grazing and trampling by feral animals (mainly horses and pigs). • Soil disturbance: rooting by feral pigs. • Weed invasion: *Holcus lanatus* (Yorkshire Fog) and *Hypericum perforatum* (St John's Wort). • Hydrological changes due to dam construction • Demographic Threats: small population size and confined geography • Logging and forestry activities • Land management practices: Uncertainty of future land management practices.	***Principle 1 SAII = No*** There is insufficient data available in publicly available resources and accessible peer reviewed articles to estimate a decline in population of the species in NSW in the past 10 years or three generations. However, TSSC (2012a) describes how considering the current threats impacting on the species, it is likely that the number of plants would decline in the future. This species habitat is restricted to areas beside small montane and subalpine streams under tall dense thickets of *Leptospermum grandiflorum* (Mountain Tea Tree), in black oozing mud or less commonly in peaty soils and sphagnum mounds (Jones, 2006, p. 308 cited in TSSC 2012a). This type of habitat occurs throughout much of the upper areas of Kosciuszko National Park. The main identified threats to the species, as listed in TSSC (2012a), which are likely to have contributed to its low population are: • Feral species: grazing and trampling by cattle and feral horses, soil disturbance by feral pigs. • Altered hydrology: impacts from forestry, bushfires and controlled burning on sedimentation rates. • Impacts of grazing: Domestic stock • Adjacent land uses: logging • Recreational activities: Horse trail riding trampling; mineral fossicking at the Bago area site • Weed invasion: Mainly by *Rubus fruticosus* (Blackberry) in the Bago area • Inappropriate land management: inappropriate fire regimes and mismanagement of controlled burns • Several of these threats could have a disproportionate impact on the narrow ecological niche favoured by this species (NSWSC 2008 cited

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
		in TSSC 2012a). For example, a hazard reduction burn in sphagnum mounds in Bago State Forest is reported to have destroyed a subpopulation during unusually dry conditions in 2006 (NSWSC 2008 in TSSC 2012).
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** According to the TSSC (2014b), this species population fluctuates between 10 and 250 individuals, although more recent surveys have estimated that 1,000 individuals may be present in the known populations (DPIE 2021a). The species has not been found to be in decline. DPIE (2021a) states the species trajectory as "fluctuating". Species numbers are also convoluted by the dry years between 2017 and 2019 when fewer plants emerged (DPIE 2021a). The species was estimated to number 10-250 individuals in 2014 (TSSC 2014b) but recent surveys estimate the population to be 1,000 individuals (DPIE 2021a). Emergent numbers of individuals are only indicative of a population as there are always dormant plants so estimates can be highly uncertain (DPIE 2021a). This species has a very low number of mature individuals (TSSC 2014b). DPIE (2021a) states the species trajectory as "fluctuating". This fluctuation may be associated with climatic or rainfall effects with DIPE (2021a) noting that population numbers are highly uncertain due to the dry years between 2017 and 2019.	***Principle 2 SAII = Yes*** As of 2014, the estimated number of mature individuals is 240, in ACT, NSW and Victoria (TSSC 2012a). According to TSSC (2014c), this species occurs in the Kiandra and Bago areas in NSW consisting of approximately 90 individuals in total. The overall number of subpopulations has increased over the past 30 years nationwide, although there is no quantitative data available on whether the species has undergone a reduction in numbers (TSSC, 2012a). However, TSSC (2014a) states that it is likely to undergo a reduction in total population size but there is insufficient data to judge how severe this reduction would be. In NSW, one subpopulation has been recorded from the Kiandra area of Kosciuszko National Park with an approximate 50 individuals, two subpopulations (one thought to be extinct) from the Bago State Forest numbering 12 individuals and one subpopulation from the neighbouring Brandy Marys Bago State Forest Crown Leases numbering an approximate 30 individuals (DPE 2008a). This species is restricted to areas beside small montane and subalpine streams under tall dense thickets of *L. grandiflorum*, in black oozing mud or less commonly in peaty soils and sphagnum mounds (Jones, 2006, p. 308 cited in TSSC 2012). This type of habitat occurs throughout much of the upper areas of Kosciuszko National Park (TSSC 2012a).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = Yes*** *Extent of Occurrence (ha) = < 100 km²* *Area of Occupancy (ha) = < 10 km²* *No. Threat-defined locations = <= 3 locations* This species has an extent of occurrence of approximately 12 ha (0.12 km²) (TSSC 2014b). This species grows on a tussock grassland plain, in moisture retentive brown loam at approximately 1,200 m above sea level (Jones 2007). This species occurs within the Australian Alps Bioregion and the Murrumbidgee Natural Resource Management Region. The distribution of this species is associated with the 'Alpine Sphagnum Bogs and Associated Fens' EPBC listed ecological community. This species has an area of occupancy of less than 1 ha (0.01 km²) (TSSC 2014b). This species is known from less than 3 locations (DPE 2022). DPIE (2021a) describes the species trajectory as "fluctuating". The species was estimated to number a large range of between 10-250 individuals in 2014 (TSSC 2014b) but recent surveys estimate the population to be 1,000 individuals (DPIE 2021).	***Principle 3 SAII = Yes*** *Extent of Occurrence (ha) = < 100 km²* *Area of Occupancy (ha) = < 10 km²* *No. Threat-defined locations = <= 3 locations* The species extent of occurrence is unknown (TSSC 2012a). However due to the low number of mature individuals and severe fragmentation it is likely that the species has a very restricted geographic distribution (TSSC 2012a). This species area of occupancy is unknown (TSSC 2012a). As a small population was found in Bago State Forest and in the adjoining Brandy Marys Crown Leases, the extent of occurrence of the species has been adjusted to include parts of the Snowy River, Tumbarumba and possibly Tumut LGA (now Snowy Valleys Council) (DPE 2008a). The species has no Threat Defined Locations. The distribution of this species is associated with the Alpine Sphagnum Bogs and Associated Fens EPBC Act-listed threatened ecological community (TSSC 2012a). There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations. Although, demographic stochasticity is listed as a threat to this species due to the narrow areas of occupancy, small population sizes, and dispersed distribution of populations (DPE 2008a).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site	***Principle 4 SAII = No*** Climatic and rainfall factors have been suggested to affect the emergence of some individuals with DPE, (2021) noting that the dry years between 2017 and 2019 may have resulted in less emergent numbers of individuals. Other than this, the species has no known reproductive	***Principle 4 SAII = No*** The species flowers from November to January and is pollinated by small gnats or mosquitos (Jones, 2006). The species produces seed and is also suspected to reproduce vegetatively as it has been found to grow in small colonies. However, vegetative reproduction appears to be limited to good seasons and this species does not form large clonal

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	characteristics that could severely limit the ability to increase the existing population. This species occurs within the Australian Alps Bioregion and the Murrumbidgee Natural Resource Management Region. The distribution of this species is associated with the 'Alpine Sphagnum Bogs and Associated Fens' EPBC listed ecological community. This associated vegetation community may be hard to replace or restore on a Biodiversity Stewardship Site. The species has a moderate sensitivity to gain, this is dependent on the species response to, and effectiveness of, controlling threats (DPE 2022). The life-history traits and ecology of this species is moderately well known (TSSC 2014b). Actions to control the threat from grazing by feral and domestic animals has recently been undertaken and the species has responded well, with numbers increasing to an estimated 1,000 individuals (DPIE 2021). The main threats to this species as described above can reasonably be controlled within a biodiversity stewardship site (eg logging, hydrological changes due to dam construction, grazing, soil disturbance by feral pigs (*Sus scrofa*), mineral fossicking, weed invasion and inappropriate land management), therefore this species is expected to be responsive to management. There are no specified KTPs for this species.	colonies like other members of this genus. A single plant found in 2003, and observed again in 2010, had not shown any vegetative reproduction. It is possible that reproduction may only occur from seed (P.Branwhite, pers. comm., 2010 as cited in DPE 2008). The species has no known reproductive characteristics that could severely limit the ability to increase the existing population, however, it is believed to be insect pollinated. Ecology and response to management is poorly known. BioNet states that the species has a high sensitivity to gain. There is no known critical habitat for this species. The life-history traits and ecology of the species is not well known. This species is listed as a data deficient species by the Saving our Species program OEH 2022b).
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
	A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Prasophyllum keltonii* was detected within the project footprint in the Snowy Mountains IBRA Subregion. Field surveys completed for the project recorded 14 individuals adjacent to (ie within 750 m) the project footprint. 330 individuals have been historically recorded by the NSW Forestry Corporation (all during 2016) within the vicinity of the project footprint. Three of these historic records directly intersected the project footprint.). Species records are situated within the southern extent of the project footprint in the PCT 1224 paddocks. *Pterostylis oreophila* and *Prasophyllum innubum* have also been historically recorded within this habitat (DPE 2022). Potentially suitable habitat for the species is situated within the project footprint and species presence has been assumed within these habitats. Given the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population.	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for Blue-tongued Greenhood was detected within the project footprint within Snowy Mountains IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within potential habitat. There are 5 nearby records of the Blue-tongued Greenhood, with the closest record 300 m from the project footprint boundary (DPE 2022). All BioNet records were focused southern extent of the project footprint (DPE 2022). It is known to occur within the Snowy Mountains IBRA Subregion. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
	The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Species presence has been assumed within potential habitat. The total area of this species potential habitat that would be directly impacted by the project is 31.67 ha. Suitable habitat in the surrounding landscape containing numerous records of Kelton's Leek Orchid would not be directly impacted by the project (DPE 2022).	assumed within potential habitat. The project would result in the direct impact to 0.56 ha of potential habitat for Blue-tongued Greenhood in the project footprint.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species	The project footprint contains 92.78 ha of suitable habitat for the species, 31.70 ha (34%) of this would be impacted by the project, mostly (98%) high condition. However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact 31.70 ha of potential habitat for this species, within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by increased threats such as infestation of weeds (Sweet Vernal grass and Sulphur cinquefoil) and potential (ox-eye daisy), off-road	The project footprint comprises 2.95 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 0.56 ha (19%), all of which is in very high condition. However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact on 0.56 ha (19%) of the 2.95 ha of suitable habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
▪ To determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	vehicle activities (access tracks), disturbance from vegetation removal and maintenance within the clearing footprint, increased edge effects, altered hydrology due to drainage lines within the project footprint. This species is associated with 'Alpine Sphagnum Bogs and Associated Fens' EPBC listed ecological community and may be affected by modified hydrology of drainage lines within the project footprint and/or changes in use and management of adjacent land.	be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks), disturbance from vegetation removal and maintenance within the clearing footprint.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	Confirmation of habitat status through survey and/or further expert advice may remove the likelihood of an SAII finding. Given the project will impact on 31.70 ha of majority (98%) high condition habitat, the project is likely to be deemed a significant risk to the species becoming extinct because it is an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	Principle 2: Given the limited available data for the current population size of the species, and the fact that the species presence is assumed due to limited survey effort, the project may be deemed a significant risk to the species becoming extinct as it may further reduce the population size of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very small population size (precautionary finding due to limited data available). Principle 3: Given the project would impact 0.56 ha of very high condition habitat, the project may be deemed a significant risk to the species becoming extinct because it is an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution (precautionary finding due to limited data available on known extent).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Prasophyllum keltonii* Kelton's Leek Orchid	*Pterostylis oreophila* Blue-tongued Greenhood
		If impacts were further avoided and minimised through route refinement (EMM B1) this would likely result in a non-significant risk determination. This should be achievable given the limited predicted area of impact.

2.2.3 *Solanum armourense*

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Solanum armourense***
Impact summary	The project would result in direct impacts to a total of 0.51 ha of *Solanum armourense* habitat all of which is assumed presence. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Solanum armourense* is a NSW endemic known to occur at only four locations, three are within Blue Mountains National Park (DPE 2003b). The species grows amongst other shrubs in eucalypt woodland, on steep rocky hillsides with shallow soil. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Solanum armourense***
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:	
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = Yes*** This species has undergone a population decline of over 80% in 10 years or three generations (DPE 2022). There is insufficient data available in publicly available resources and accessible peer reviewed articles to estimate a decline in population of the species in NSW in the past 10 years or three generations. The species is known from only four locations where it grows amongst other shrubs in eucalypt woodland, on steep rocky hillsides with shallow soil. Long term population data is not available for this species in NSW. However, as outlined in BioNet (DPE 2022), key threats to the species, which are likely to have contributed to its low population are: • Demographic threats: small population size. Given extremely small population size and restricted distribution this species is threatened by extinction due to environmental and demographic uncertainty. • Habitat loss/disturbance: Vegetation clearing for agricultural purposes and urban development. Species under threat also from roads or tracks where potential damage from maintenance activities or fire management is a threat. • Fire: Inappropriate fire regime, particularly frequent fire. • Weed Invasion: Potential for invasion of habitat by *Nassella trichotoma* (Serrated tussock) and *Pittosporum undulatum* (Sweet Pittosporum). • Disease: Potentially threatened with infestation by the Tomato Red Spider Mite (*Tetranychus evansi*). The Murphys Crossing population has been identified as hosting a small beetle that impacts foliage and appears to reduce reproductive fitness. • Pest animals: Occasionally impacted by rutting and digging by feral pigs.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = Yes*** *Solanum armourense* is a NSW endemic known to occur at only four locations, three are within Blue Mountains National Park (DPE 2003b). A recent survey at three of the locations found only 2 mature individuals at a single location, although the species may be present in the soil seed bank at these and other sites (DPE 2003b). BioNet states that there are <50 individuals or <250 individuals where threats are known (DPE 2022). There is insufficient data to determine an estimate of a decline in the population over the last three years or one generation. BioNet Atlas (DPE 2022a) contains 157 records of this species. Of these records, none are within the last ten years, offering a poor indication of current decline. BioNet record

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Solanum armourense*
	data does not contain enough records to confidently identify a decline in the population over the last three years (DPE 2022a). According to the NSW Scientific Committee (DPE 2003b), a recent survey at three of the known locations found only two mature individuals at a single location, although the species may be present in the soil seed bank at these and other sites. There is little evidence to suggest whether the species is likely to undergo extreme fluctuation. However, this species is possibly susceptible to fire which could cause its population to fluctuate given its isolated and restricted populations (DPE 2003b).
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No*** *Area of Occupancy (ha) = no data* *Extent of Occurrence (ha) = no data* *No. Threat-defined locations = no data* A quantified extent of occurrence for this species is not provided in BioNet (2022). The species is confined to a relatively small area south-west of Sydney, from Mt Armour within Blue Mountains National Park south to the Wombeyan area (DPE 2003b). A quantified area of occupancy for this species is not provided in BioNet (2022). The species is known from only four locations where it grows amongst other shrubs in eucalypt woodland, on steep rocky hillsides with shallow soil. Three of the four locations occur within Blue Mountains National Park (DPE 2003b). The number of threat defined locations for this species is not provided, however the species is known from only four locations (BioNet 2022). Occurrences of this species seem to reflect the presence of soils derived from limestone or with a high proportion of calcite sediments (OEH 2022). It's suggested that this species is susceptible to fire which could threaten populations given their isolated locations and small population size (DPE 2003b). There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations. However, this species is fire sensitive and an obligate seeder (ie loses the entire adult population in a fire and relies on the seedbank to regenerate) (DPE 2022).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site	***Principle 4 SAII = No*** The reproductive traits of this species are not well known with limited information available. This species is known to flower August to May, peaking in warmer months (DPE 2022). This species does not appear to have any reproductive characteristics that could severely limit the ability to increase the existing population.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Solanum armourense*
▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	BioNet (DPE 2022) states that the species has a high sensitivity to gain, however this is dependant on the effectiveness of management in controlling threats. This species ecology and response to management is poorly known. There is no known critical habitat for this species. The life-history traits and ecology of this species is not well known. There are no specified key threatening processes for this species.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:	
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Potentially suitable habitat for *Solanum armourense* was detected within the project footprint within the Bungonia IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are two nearby records of *Solanum armourense,* with the closest record 6.5 km from the project footprint boundary (DPE 2022). BioNet records were focused on the eastern extent of the project footprint (DPE 2022). It is known to occur within the Bungonia IBRA Subregion. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within potential habitat. The total extent of potential habitat for the species that would be directly impacted by the project is 0.51 ha. However, given that this species was not recorded on the

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Solanum armourense*
	site during targeted surveys, there are no BioNet records within the project footprint and individuals recorded in the surrounding landscape would be retained, it is unlikely that the project would impact the local population for this species.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ To determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The project footprint comprises 7.17 ha of potential habitat for the species, 0.51 ha (6.6%) of this habitat would be impacted by the project, 98% of which is in moderate to high condition. However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact on 0.51 ha (7%) of the 7.17 ha of potential habitat for the species within the project footprint. The project would impact some potentially suitable habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks), disturbance from vegetation removal and maintenance within the clearing footprint.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.
Likely SAII assessment outcome against relevant principles.	Principle 1: Given the project would impact 0.51 ha of moderate to high condition habitat and the species presence is assumed, the project may be deemed a significant risk to the species becoming extinct as it may cause a further decline of the species that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline (precautionary finding due to limited data available on rate of decline).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Solanum armourense*
	Principle 2: Given the limited available data for the current population size of the species, and the fact that the species presence is assumed due to limited survey effort, the project may be deemed a significant risk to the species becoming extinct as it may further reduce the population size of the species that is currently observed, estimated, inferred or reasonably suspected to have a very small population size (precautionary finding due to limited data available). If impacts were further avoided and minimised through route refinement (EMM B1) or if further survey confirmed absence of the species within areas of assumed presence this would likely result in a non-significant risk determination.

2.3 Threatened fauna

2.3.1 Yellow-spotted Tree Frog and Smoky Mouse

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Litoria castanea* Yellow-spotted Tree Frog**	***Pseudomys fumeus* Smoky Mouse**
Impact summary	The project would result in direct impacts to a total of 1.36 ha of Yellow-spotted Tree Frog potential habitat, typically constituting trees fringing farm dams or other waterbodies with limited habitat potential. No breeding habitat is expected to be directly impacted for the species. Potential indirect impacts to the species includes: • Reduced viability of adjacent habitat due to noise, dust, or light spill. • Increased risk of starvation or exposure, and loss of shade or shelter. • Increase in pest animal populations and predation of native fauna. • Changed fire regimes. Prescribed impacts to the species includes: • Impacts on habitat connectivity. • Impacts to water quality, waterbodies and hydrological processes.	The project would result in direct impacts to a total of 132.66 ha of Smoky Mouse habitat. Potential indirect impacts to the species include: • Reduced viability of adjacent habitat due to noise, dust, or light spill. • Increased risk of starvation or exposure, and loss of shade or shelter. • Removal and disturbance of rocks, including bush rock. • Increase in pest animal populations and predation of native fauna. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	Yellow-spotted Tree Frog require large permanent ponds or slow flowing 'chain-of-ponds' streams with abundant emergent vegetation such as bulrushes and aquatic vegetation. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened frogs include: • Avoiding and minimising impacts by spanning over waterways and rerouting access tracks to avoid waterway habitats wherever possible (EMM B1).	The Smoky Mouse occurs in a range of habitat from heath on ridge tops, slopes in sclerophyll forest, heathland, open forest and occasionally wetter gullies (DPE 2022). Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to Smoky Mouse include: • Avoiding and minimising impacts by route refinement, over-spanning and rerouting access tracks to avoid potential habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to further delineate

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
	• Additional targeted surveys undertaken prior to commencement of construction to delineate the extent of habitats within inaccessible lands (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying threatened frog habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitat areas as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with Chytrid Fungus (EMM B19). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20).	the extent of habitats within the project footprint (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying Smoky Mouse habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Development of a Connectivity Strategy to ensure essential habitat linkages for the species are retained within the landscape (EMM B16). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitat areas as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18). • Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).

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	• Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).	
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). There are no data available to evaluate the population trend over any three-generation period (TSSC 2019). Generation length is not known with certainty but is estimated to be four to five years based on two similar *Litoria* species found in similar habitats, *L. aurea* (Green and Golden Bell Frog) and *L. raniformis* (TSSC 2019). Consequently, the appropriate time scale for this criterion is likely to be between 12 to 15 years (TSSC 2019). While the amphibian chytrid fungus caused a substantial decline in the population of *Litoria castanea* (Yellow-spotted Tree Frog), this occurred predominantly in the late 1980s and early 1990s and is therefore outside the relevant time period for this criterion (TSSC 2019). There are no data available to evaluate the population trend over any three-generation period (TSSC 2019). Threats to the species are principally related to disease and habitat degradation (TSSC 2019). Key threats to the species (DPE 2022), which are likely to have contributed to its decline in NSW over the last 10 years are: • Habitat loss: Loss/modification of wetlands, swamps and slow-running creeks and adjacent vegetation. Changes to hydrology and water quality. Removal of fallen timber, rocks and debris used as shelter by this species.	***Principle 1 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). Population size of *Pseudomys fumeus* is difficult to estimate due to its ephemeral nature, in a spatial and temporal sense (DPE 2010b). DPIE (2021f) lists the species population trajectory as declining. However, the number of sites occupied in 2020 was the same as in 2008 may indicate the beginning of an increasing trend (DPIE 2021f). The species is limited to a small number of locations in NSW's south-east; with an estimated population of less than 100 individuals (DPIE 2021f). The species population was found to be declining across many sites after repeat survey efforts, as reported in Menkhorst and Broom (2008). The species is listed in BioNet as having a population decline of > 80% within three generations (DPE 2022). Key threats to the species (DPIE 2021f), which are likely to have contributed to its decline are: • Habitat loss/fragmentation: Loss of habitat, primarily through timber harvesting and road construction along ridges. • Fire and inappropriate fire regimes: Too frequent burning (ie hazard reduction burns every 4-7 years) removes foraging habitat in the shrub layer and affects hypogeal fungi that forms a large part of the species diet (Menkhorst and Broome 2008). Conversely too long a period without fire can lead to

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
	• Disease: Amphibian Chytrid Fungus which causes the disease Chytridiomycosis. Infection by myxosporean parasites is also a potential threat (TSSC 2019). • Disturbance to habitat: Damage to breeding habitat through forestry activities. • Chemical pollution: herbicide and pesticide application in or adjacent to habitat • Weed and native grass encroachment: invasion of habitat by weeds such as Ulex europaeus (Gorse). • Feral species: Predation by foxes and cats. Egg predation by introduced fish species such as *Cyprinus carpio* (European Carp), *Perca fluviatilis* (European Perch, Redfin) and *Gambusia holbrooki* (Gambusia, Eastern Mosquitofish) • Reduced distribution: Restricted in distribution as well as population size.	the senescence of understorey vegetation on long unburnt sites. • Feral animals: Predation from feral cats and foxes. Feral herbivore browsing/grazing reducing food resources and depleting shrub cover. Predation from domestic cats and dogs from adjacent land holdings. • Disease: *Phytophthora cinnamomi* dieback. Many of the heath plants in this species foraging habitat are affected. • Demographic threats/small population size: The small population size can lead to the loss of site occupancy through demographic and/or gender driven metapopulation collapse. • Lack of knowledge: Insufficient understanding of this species distribution and abundance. Uncertainty about the species' density and distribution throughout its EOO. According to BioNet, there are many nearby records of this species within 10 km of the project footprint. The majority of records within the locality are to the south east of the project footprint north of Cabramurra.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). There is no known extant population of *L castanea* (NSW National Parks and Wildlife Service 2001 cited in TSSC 2019). In 2004, the IUCN Red List of Threatened Species estimated that the population contains fewer than 50 mature individuals (Hero et al., 2004 cited in TSSC 2019). *L castanea* may be extinct in the wild, however, they may have remained undetected as a result of insufficient survey effort (NSW National Parks and Wildlife Service 2001; Hero et al. 2006 cited in TSSC 2019).	***Principle 2 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). DPE (2010b) estimated that the population in NSW may be less than 50 individuals. More recent reports have estimations of <100 individuals (DPIE 2021f). This species displays both long-term population decline as well as shorter term "boom and bust" population dynamics. DPIE (2021f) lists the species population trajectory as declining. The species was found to be in decline at most of the sites surveyed (Menkhorst and Broome 2008).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
	There are no data available to evaluate the population trend over any three-generation period (TSSC 2019). See above for more detail. Given that there are no records of the species since 1980, the total population is likely to include fewer than 50 mature individuals and may already be extinct (TSSC 2019).	Extremely little is known about the population number and composition of the Smoky Mouse (Menkhorst and Broome 2008). This species displays both long-term population decline as well as shorter term "boom and bust" population dynamics (DoE 2019). True variation in population density and composition may also be complicated by variability in capture/detectability, making it hard to recognise when an actual decline or range contraction has occurred or gain a real insight into the population composition in any given area (DoE 2019). Quantitative data on the age structure of the population species is not readily available.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). The calculated extent of occurrence (EOO) is 4 km^2. The current geographic distribution of the species could be highly restricted or very highly restricted, depending on persistence of populations in unsurveyed habitat (TSSC 2019). The area of occupancy (AOO) for this species is estimated to also be 4 km^2 (TSSC 2019). At present, no critical habitat has been identified or declared for *L castanea* (NPWS 2001b). NPWS (2001b) proposes consideration of declaration of critical habitat under the TSC Act for this species in the event that an extant population is found in NSW (NPWS 2001b). This species has not been located in many years, despite significant effort (TSSC 2019). If there are remaining populations, they can also be inferred to be severely fragmented (NSWSC 2008a). There is no information/evidence of this species experiencing extreme fluctuations in population size or habitat (NSWSC 2008a).	***Principle 3 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). The extent of occurrence for this species is estimated at 102,498 km^2. There are known populations this species in the Eden/Nullica region of south eastern NSW (DoE 2019). There are also intermittent detections in the Snowy Mountains from Kosciuszko National Park through to the Brindabellas near Canberra (DoE 2019). The area of occupancy of this species is estimated to be 256km^2. The NSW Scientific Committee considers the species area of occupancy to be restricted (DPE 2010). The ephemeral nature of populations makes a robust estimate of AOO difficult (DoE, 2019). It is thought that this species inhabits a range of vegetation communities including coastal and subalpine heath, *Eucalyptus pauciflora* (Snow Gum) woodland in subalpine regions, and dry forest dominated by eucalypts such as *E. dives* (Broad-leaved Peppermint), E. *mannifera* (Brittle Gum*), E. dalrympleana* (Mountain Gum) or *E. delegatensis* (Alpine Ash) (DPIE 2021f). Some populations of this species (Grampians, Vic) has shown resilience post disturbance (fires, drought and invasive feral

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
		predators), This species is thought to have been more common, with sub-fossil remains being found in far western Victoria and south eastern NSW at Jenolan Caves (DPIE 2021f). This species displays both long-term population decline as well as shorter term "boom and bust" population dynamics (DoE 2019). This species is known to undergo large annual fluctuations in abundance, with a rapid decline in numbers leading up to breeding season (Cockburn 1981). The young are forced to vacate their birth territory during autumn as food resources dwindle, which can cause death from not finding adequate habitat/food resources or predation with only those finding high quality food likely to survive the winter (Cockburn 1981). Consequently, the decline in abundance principally affects individuals resident in non-preferred habitats (Cockburn 1981). The ephemeral nature of this species life history may also be complicated by variability in capture/detectability, making it hard to recognise true population effects (DoE 2019).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). Little is known about the reproductive process of *L castanea*, however, it is likely to be similar to that of *L. aurea* and *L. raniformis* (NSW SC 2008a). This species has no known characteristics that could severely limit its ability to increase on a biodiversity stewardship site. The habitat of *L castanea* comprises ponds, wetlands and slowly moving streams with abundant marginal growth of bulrushes and other vegetation NPWS 2001b). At present, no critical habitat has been identified or declared (NPWS 2001b). The ability to control key threats at a biodiversity stewardship site is thought to be possible. The removal of feral animals through fencing and control programs	***Principle 4 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). BioNet states that this species has a high sensitivity to gain, dependant on the effectiveness of management actions controlling threats to the species. There are no known reproductive characteristics that could severely limit the ability to increase the existing population on a biodiversity stewardship site. The species is not reliant on abiotic habitats which cannot be restored, replicated or replaced on a biodiversity stewardship site. Adequate ground cover (low heath, grass tussocks, logs, rocks or leaf-litter) and soil conditions conducive to growth of hypogeal fungi (a major component of the diet) are deemed to be critical habitat elements (Menkhorst & Broome 2008). The

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
	is achievable. To mitigate the threat of Amphibian Chytrid Fungus, a strict hygiene protocol would be able to be enforced on a biodiversity stewardship site in alignment with DEE (2016).	species is known to inhabit disturbed habitat, with a population being found in an artificial boulderfield in Kosciuszko National Park showing that this species does not have many limiting habitat preferences. This species would benefit from the removal/control of feral cats and foxes which are a key threatening process. This threat can be mitigated through adequate fencing and control programs on a biodiversity stewardship site. The opportunity to control fire regimes more closely on a biodiversity stewardship site would also remove another key threatening process for this species. *Phytophthora cinnamomi* (Cinnamon Fungus) is a threat that may be difficult to control at a biodiversity stewardship site. Many plant families and genera that make up this species habitat are susceptible to the fungus. Habitat for this species has been removed in some areas of infestation in NSW (eg Nullica) (Menkhorst & Broome 2008). Cinnamon Fungus has the potential to have a large detrimental impact to this species on a biodiversity stewardship site.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	Some of the questions in this consideration of SAII cannot be assessed at this time because: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information we have been able to source.

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	Suitable habitat for Yellow-spotted Tree Frog was detected within the project footprint within PCTs 335, 939, 1256, 9997 in the Crookwell, Murrumbateman and Snowy Mountains IBRA subregion. It is not possible to determine how many individuals comprise the sub-population from the available data. Given that there are no records of the species since 1980, the total population is likely to include fewer than 50 mature individuals and may already be extinct (TSSC 2019). However, they may have remained undetected as a result of insufficient survey effort (TSSC 2019). The total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be attained. The species was not recorded in the project footprint during targeted surveys and is assumed present. There are 2 nearby records of the Yellow-spotted Tree Frog (400 estimated individuals) (DPE 2022). All records are outside the project footprint, with the closest record 9 km from the project footprint. Records are focused around the western extent of the project footprint. It is known as historically present in Crookwell and Murrumbateman IBRA Subregions. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 1.36 ha of potential habitat for Yellow-spotted Tree Frog. Given that only limited suitable habitat would be impacted, and similar habitat in the surrounding landscape would be retained, it is unlikely that the project would substantially impact the local population for this highly mobile species. The species unit of measure is area, with the species polygon mapped as per the requirements in the NSW Survey Guide for	Suitable habitat for *Pseudomys fumeus* was detected within the project footprint within PCTs 638, 953 and 1196 in the Bondo and Snowy Mountains IBRA subregions. Targeted fauna surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 132.66 ha (0.06 ha and 132.6 ha in Bondo and Snowy Mountains IBRA subregions, respectively) of potential habitat for Smoky Mouse. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species habitat that would be impacted by the project is 132.66 ha (0.06 ha and 132.6 ha in Bondo and Snowy Mountains IBRA subregions, respectively).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Litoria castanea* Yellow-spotted Tree Frog	*Pseudomys fumeus* Smoky Mouse
	Threatened Frogs (DPIE 2020d) (Figure 13-3). Up to 1.36 ha of potential habitat would be directly impacted as a result of the project, however similar habitat in the surrounding landscape would be retained. Therefore, whilst there would be an impact on 1.36 ha of suitable habitat in the project footprint, it is considered to be of negligible consequence to the species on a regional scale. This species requires large permanent ponds or slow flowing 'chain-of-ponds' streams with abundant emergent vegetation such as bulrushes and aquatic vegetation (DPE 2022). The project has the potential to impact on water quality, water bodies and hydrological processes. A total of 1,139 streams are located within the project footprint (of various types and condition). There are several major waterbodies that intersect the project footprint. However, construction work would mostly be limited to above-ground transmission line construction and installation, which would avoid direct impacts to waterways, especially major waterways, with appropriate water management measures to be implemented. Work within proximity of aquatic ecosystems would require stringent erosion and sediment controls to avoid increased run-off and pollutant loads. Once operational, such impacts are considered to be negligible on an ongoing basis.	
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect	The extent of occurrence and area of occupancy for this species was estimated to be 4 km^2 (TSSC 2019). Therefore, the project would impact 0.5% of the Yellow-spotted Tree Frog range. However, the habitat impacted only provides opportunistic forage and the species has a high dispersal across its range. As such, it is unlikely that the geographic range or area/extent of occupancy of this highly mobile species would be substantially impacted by the project. This species was not recorded in the project footprint and there were two records (400 estimated individuals) near the	The project footprint includes 132.66 ha (0.06 ha and 132.6 ha in Bondo and Snowy Mountains IBRA subregions respectively) of potential habitat for the species, 132.66 ha (0.06 ha (0.05%) and 132.60 ha (99.95%) in Bondo and Snowy Mountains IBRA subregions, respectively) of which would be impacted by the project. The extent of occurrence and area of occupancy for this species was estimated to be 102,498 km^2 and 256 km^2, respectively (TSSC, 2021). Therefore, the project could potentially impact 0.5% of the Smoky Mouse range.

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some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	project footprint, with the closest record 9 km from the project footprint. Therefore, it is likely that the project would affect some suitable habitat, but no individuals of the species is likely to be directly impacted within the area surveys, as none were recorded. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in the development of highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. This species is likely to be able to traverse the long, linear nature of the area to be cleared. Any impacts on species connectivity are likely to reduce over time as biodiversity acclimatises to the presence of the transmission lines (and structures), further a connectivity strategy is to be developed after the design refinement stage to minimise the extent of connectivity impacts, which may include retaining of corridors adjacent to easement to facilitate fauna movement. The consequence of the impacts would be minor and non-significant. It is therefore unlikely that a population of the species would be fragmented by the project. Therefore, the project is not likely to reduce the habitat area required to support a population of the species. The impact on the sub-population(s) cannot be quantified, as the Yellow-spotted Tree Frog was not recorded and the species polygon has been calculated based on assumed presence in suitable habitat. The project would impact 1.36 ha of suitable habitat for this species. If the species is present, individuals in the project footprint may be affected by changes to water quality, habitat loss, disturbance from access tracks, chemical pollution, vegetation removal and maintenance within the clearing footprint. Yellow-spotted Tree Frog is also threatened by Amphibian Chytrid Fungus which causes the disease	The project would impact on 132.66 ha (0.06 ha (0.05%) and 132.60 ha (99.95%) in Bondo and Snowy Mountains IBRA subregions, respectively) of the 132.66 ha (0.06 ha and 132.6 ha in Bondo and Snowy Mountains IBRA subregions, respectively) of potential habitat for the species within the project footprint. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. This species is likely to be able to traverse the long, linear nature of the area to be cleared. Any impacts on species connectivity are likely to reduce over time as biodiversity acclimatises to the presence of the transmission lines (and structures), further a connectivity strategy is to be developed after the design refinement stage to minimise the extent of connectivity impacts, which may include retaining of corridors adjacent to easement to facilitate fauna movement. The project is not likely to not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, habitat loss, increased edge effects, introduction or spread of pathogens, altered hydrology due to drainage lines within the project footprint, and off-road vehicle activities (access tracks).

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	Chytridiomycosis. Infection by *myxosporean* parasites is also a potential threat (TSSC 2019). There is the potential for the introduction or spread of pathogens by means of imported materials, machinery movements and increased foot traffic during the construction phase. No evidence of pathogens such as Chytrid Fungus was recorded within the project footprint. However, these have potential to occur. Given the likelihood of Chytrid Fungus occurring on the site is low, mitigation can be implemented via hygiene protocols.	
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable	Not applicable.
Likely SAII assessment outcome against relevant principles.	The project would have direct impacts on 1.36 ha of potential habitat for Yellow-spotted Tree Frog typically constituting trees or other woody vegetation fringing farm dams or other waterbodies with limited habitat potential. No breeding habitat is expected to be directly impacted for the species. About 1.09 ha (80%) of the potential habitat occurs within the TCZ and would be subject to permanent loss. The remaining habitat areas occur within the ECZ and HTZ and would be subject to partial clearing. A low likelihood of direct impacts to potential breeding habitat and the limited extent of impact on surrounding foraging habitats mean an SAII outcome is considered unlikely for this species, particularly given stated measures to avoid and mitigate impacts to waterbodies. Additional measures to reduce clearing within potential habitat would strengthen this conclusion.	The project would impact on 132.66 ha of high or very high condition potential habitat, 59.43 ha (45%) of this habitat would be subject to some selective thinning of large trees only (i.e. HTZ). Given this, microhabitat features are expected to be retained within these areas. Impacts to 132.66 ha of habitat potentially equates to 0.5% of the species known range. It is considered that the impacts from the project may be deemed a sufficiently high risk to be an SAII depending on the likelihood of the species being present. Additional survey and/or expert advice is likely to assist in confirmation of the species presence/ absence within the project footprint and therefore the considered level of risk for an SAII to occur.

2.3.2 Sooty Owl

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Tyto tenebricosa* Sooty Owl**
Impact summary	The project would result in direct impacts to a total of 21.2 ha of Sooty Owl habitat. Potential indirect impacts to the species include: • Reduced viability of adjacent habitat due to noise, dust, or light spill. • Increased risk of starvation or exposure, and loss of shade or shelter. • Increase in pest animal populations and predation of native fauna. • Changed fire regimes. • Fauna collision, electrocution with transmission lines. Prescribed impacts for the species include: • Impacts to karst, caves, crevices, cliffs, rocks and other geological features, including 6.23 ha of steep cliffline habitat within the project footprint that may be considered potential cave – nesting habitat for Sooty Owl. • Fauna injury and/or mortality from transmission line collision, entanglement, or electrocution.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	The Sooty Owl occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests. Roosts by day in the hollow of a tall forest tree or in heavy vegetation; hunts by night for small ground mammals or tree-dwelling mammals such as the Common Ringtail Possum (*Pseudocheirus peregrinus*) or Sugar Glider (*Petaurus breviceps*). The species nests in very large tree-hollows (OEH 2017). Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to Sooty Owl include: • Avoiding and minimising impacts by route refinement, over-spanning and rerouting access tracks to avoid potential habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to further delineate the extent of habitats and potential roost locations within the project footprint (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying Sooty Owl habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Development of a Connectivity Strategy to ensure essential habitat linkages for the species are retained within the landscape (EMM B16).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Tyto tenebricosa* Sooty Owl
	• Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitat areas as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18). • Habitat supplementation measures, including nest boxes and hollow re-use/ creation, to be implemented wherever practicable (EMM B21). This would be documented within a Supplementary Hollow and Nest Strategy. • Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:	
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 1 – rapid decline (DPE 2022). This species is inferred to have declined as a result of clearing of forest (DEC 2006). However, there is no evidence that the species is continuing to decline in public forest lands (DEC 2006), and it is believed that populations in NSW may now be stable, albeit with medium reliability (Garnett & Crowley 2000). In NSW, the distribution of the species has remained almost the same over the 20 years between 1977-1981 and 1998-2002, although not enough records are available to identify any state or national trend in reporting rate (Barrett et al. 2003, 2007). Most populations in NSW are now located in State forests and NSW National Parks, and the baseline for its historical decline is uncertain (NSWSC 2008). Key threats to the species (DPE 2022), which are likely to have contributed to its decline in NSW over the last 10 years are: Habitat loss, fragmentation and degradation: Loss of hollow bearing trees and changes to forest and woodland structure. Clearing of habitat for agriculture, grazing forestry or other pursuits. Poisoning: Secondary poisoning from rodenticides. Overgrazing and fire: A combination of grazing and too frequent fire can lead to the depletion of ground cover for small mammal prey.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Tyto tenebricosa* Sooty Owl
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 2 – small population size (DPE 2022). The number of individuals has been estimated as 10,000, of which more than half would occur in NSW on the assumption of geographic range; or more than 5,000 birds (Garnett & Crowley 2000). This estimate is assigned with a low level of reliability (Garnett & Crowley 2000). The NSW population was estimated as a minimum of 2,000 pairs or 10,000 birds (DEC 2006). This species is inferred to have declined as a result of clearing of forest (DEC 2006). However, there is no evidence that the species is continuing to decline in public forest lands (DEC 2006), and it is believed that populations in NSW may now be stable, albeit with medium reliability (Garnett & Crowley 2000). There is no data available in the literature to give an estimation of the number of mature individuals.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). This species' extent of occurrence is estimated to be 230,000km^2 (NSWSC 2008). This species area of occurrence is estimated at 50,000km^2 (NSWSC 2008). This species inhabits subtropical and warm temperate rainforest, and moist eucalypt forest with a well-developed mid-storey of trees or shrubs (NSWSC 2008). The species is capable of dispersal over ranges up to 50km^2 including across disturbed areas (NSWSC 2008) so is unlikely to be threatened by a single event. The cleared Hunter Valley is assumed to have broken connectivity between the northern and southern distribution of the species in NSW. NSWSC (2008) states that there is no evidence of extreme population fluctuations in the population size or habitat of this species.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or	***Principle 4 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). Sooty Owls nest in large tree hollows more than 30 cm wide and up to 10 m deep in big, old trees (usually alive but sometimes dead) (NSWSC (2008). This species is highly dependent on the availability of tree hollows for breeding. This species ability to be increase in population on a biodiversity stewardship site would be highly dependent on the presence of large, hollow bearing trees on the site.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Tyto tenebricosa* Sooty Owl
▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	This species preference for nesting in large, hollow bearing trees may be a limiting factor on a biodiversity stewardship site lacking this feature. Key threatening processes can be reasonably controlled within a biodiversity stewardship site, therefore this species is expected to be responsive to management.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	Some of the questions in this consideration of SAII cannot be assessed at this time because: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information we have been able to source.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:	
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. The number of individuals in NSW has been estimated as 10,000 birds (DEC 2006). However, no individuals or nesting habitat (caves or hollow bearing trees) was identified within the project footprint during targeted survey efforts, as such a percentage to be impacted of the total population cannot be attained. There are nine nearby records (10 estimated individuals) on BioNet (DPE 2022). All records are outside the project footprint, with the closest record 650 m from the project footprint. Records are focused around the southern extent of the project footprint. It is known to occur in Bondo, Bungonia and the Snowy Mountains IBRA Subregions. Associated PCTs and habitat occurs within the project footprint. This species may utilise habitats within the project footprint for foraging and breeding where suitable hollows are present. The project intersects 160 ha of steep sandstone geologies within the project footprint, however no cave environments were identified during field campaigns. Furthermore, no deep excavation or drilling is required within rocky areas or steep slopes that intersect the project footprint and spanning of structures across steep gullies and outcropping would occur. Suitable caves and breeding sites have not been detected in the project footprint. As above, this species was not recorded on the site, as such a percentage to be impacted of the total population cannot be determined. The species unit of measure is area. The species polygon for this species should be formed where a hollow bearing tree has been identified as a breeding site. As breeding sites were not recorded during field survey, the species polygon has been conservatively mapped based on associated PCTs (638) with a condition sufficient to

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Tyto tenebricosa* Sooty Owl
	support potential breeding and foraging opportunities (i.e. high condition). The total extent of potential habitat that would be impacted by the project is 21.20 ha. However, it should be noted that this is likely to be an over estimate of any actual impacts given hollow bearing trees were only recorded within 57% of plots completed within the relevant vegetation zone associated with this species (ie PCT 638 High). 11.80 ha (56%) of impacted habitat is situated within the HTZ and would be subject to selective clearing of large trees only.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	This species extent of occurrence is estimated to be 230,000km^2 and area of occurrence is estimated at 50,000km^2 (NSWSC 2008). Therefore, the project would impact 0.0004% of the Sooty Owl's area of occurrence. The impact on the sub-population(s) cannot be quantified, as the species (or any or active nesting habitat) was not recorded within the project footprint during targeted survey efforts. There were several records of the species outside the project footprint, with the closest record 650 m from the project footprint. This mobile species is likely to be able to traverse the linear nature of the area to be cleared. It is therefore unlikely that a population of the species would be fragmented by the project. Therefore, the project is not likely to reduce the habitat area required to support a population of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in suitable habitat. The project would impact 21.20 ha of potential habitat for this species. If the species is present, individuals in the project footprint may be affected by an increase in habitat loss, changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.
Likely SAII assessment outcome against relevant principles.	The project would impact on 21.20 ha of potential habitat for Sooty Owl. However, based on the review of available plot and hollow bearing tree data, it is likely that a moderate proportion of this habitat does not support suitable hollows and could be removed from the species polygon

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Tyto tenebricosa* Sooty Owl
	altogether. Additional constraints mapping and survey during breeding season is recommended to confirm where breeding habitats are present/ absent. More than half (11.80 ha) of impacted habitats are situated within the HTZ. Where active roosts are recorded within this zone, it is likely that these could be avoided through design measures such as increased transmission line structure heights and micro-siting. Given impacts to breeding habitats are likely to be limited in extent, the project is deemed unlikely to pose a significant risk to the species becoming extinct.

3. Threatened biodiversity SAII candidates with limited potential to be impacted

3.1 Threatened flora

3.1.1 Acacia phasmoides and Bossiaea fragrans

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Acacia phasmoides* Phantom Wattle**	***Bossiaea fragrans***
Impact summary	The project would result in direct impacts to a total of 2.00 ha of Phantom Wattle habitat (assumed presence), all of which is in moderate condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 6 ha of *Bossiaea fragrans* habitat (assumed presence), 0.68 ha (11%) of which is in moderate to high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	In NSW *Acacia phasmoides* occurs on seasonally damp granite-derived soils in very close proximity (typically less than 8 m; DPIE 2021) to ephemeral creeks and their tributaries (Harden 1991; DECCW pers. comm. in Sutter 2010), from 220–390 m altitude (DAWE 2021). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed	*Bossiaea fragrans* is currently only known from the Abercrombie Karst Conservation Reserve and within the adjacent Travelling Stock Reserve, south of Bathurst on the NSW central tablelands. It has a highly restricted distribution, with only a small number of discrete known sub-populations. The species occurs on spilite, rhyolite or slate and volcanic substrates and is often associated with Red Stringybark (*Eucalyptus macrorhyncha*) - Red Box (*Eucalyptus polyanthemos*) woodland +/- White Box (*Eucalyptus albens*). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1).

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
	present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the:	*Principle 1 SAII = No* There is insufficient data on decline in population to assess *Acacia phasmoides* against this criteria.	*Principle 1 SAII = No* There is insufficient data on decline in population to assess *Bossiaea fragrans* against this criterion (TSSC 2018).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	There is insufficient data on decline in population to assess *Acacia phasmoides* against this criteria. Nothing is known of the previous abundance of the NSW population (Sutter 2010). The major threats to *Acacia phasmoides* are herbivory from feral herbivores (browsing by feral mammals including goats and deer) particularly during the post-fire recovery stage and the genetic consequences of small subpopulations. *Acacia phasmoides* is threatened by several fire-related threats, including high frequency fire, fire-drought interactions and fire promoted weed invasion (DAWE 2021c). The 2019–20 bushfires burnt approximately 51% of the modelled range of *Acacia phasmoides* (Gallagher 2020), including nearly the entire Victorian subpopulation and approximately one third of the plants in the known NSW subpopulation (DAWE 2021c).	Continuing decline has been observed for number of mature individuals because of ongoing impacts from goats (*Capra hircus*) and pigs (*Sus scrofa*) (TSSC 2018). *Bossiaea fragrans* is threatened by grazing and competition from weeds. Goats are common in the Abercrombie Caves area and it is thought that they may be grazing on *Bossiaea fragrans* seedlings (McDougall pers. comm. Cited in NSW Scientific Committee 2009). The grass *Nassella trichotoma (*Serrated Tussock) is also in the area and may be a threat to recruitment of seedlings (McDougall 2009 cited in NSW Scientific Committee 2009). A potential contributor to future decline in *Bossiaea fragrans* is the loss of seed to predation by insects. Observations in 2011 suggested seed predation was significant (in the order of 50%; R. Johnston pers comm, January 2017 cited in NSW Scientific Committee 2009).
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	<u>*Principle 2 SAII = No*</u> In New South Wales, there is a single subpopulation of about 2000 plants east of Holbrook (NSW NPWS 2020 cited in DAWE 2021), with most of the plants occurring in Woomargama National Park and a few plants growing on adjoining private property to the south of the park (although these were not relocated during surveys in 2012; DPIE 2021 cited in DAWE 2021c). *Acacia phasmoides* is known only from the two areas in which it currently occurs, and there are no records to suggest there has been any decline in distribution since European settlement of Australia. Nothing is known of the previous abundance of the NSW population (Sutter 2010). *Acacia phasmoides* is restricted to two subpopulations in small areas of north-eastern Victoria and south-eastern New South Wales (ALA 2020 cited in DAWE 2021c). In New South Wales, there is a single subpopulation of about 2000 plants east of Holbrook (NSW NPWS 2020 cited in DAWE 2021c), with most	<u>*Principle 2 SAII = Yes*</u> *Bossiaea fragrans* has a total population of only 400 plants (TSSC 2018). Currently only known from the Abercrombie Karst Conservation Reserve and within the adjacent Travelling Stock Reserve, south of Bathurst on the NSW central tablelands. It has a highly restricted distribution, with only a small number of discrete known sub-populations (OEH 2022f). According to Jowett (2015) 'Following targeted searches over 3 years from 2011 to 2014, the known population has increased to over 400 plants' (TSSC 2018). The number of mature individuals of *Bossiaea fragrans* is extremely low. A total of 13 plants were located within the two extant populations (12 plants at one site, and only one plant at the second site) (NSW Scientific Committee 2009). Additional individuals were discovered during surveys from 2011 to 2014 that identified 400 plants at 21 sites, a considerable increase on the 13 plants at two sites previously recorded. The species is still considered to be highly geographically restricted (Jowett

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
	of the plants occurring in Woomargama National Park and a few plants growing on adjoining private property to the south of the park (although these were not relocated during surveys in 2012; DPIE 2021 cited in DAWE 2021c). In Victoria, there is a single subpopulation in Burrowa-Pine Mountain National Park near Corryong, where the species occurs in four documented areas to the west and south of Pine Mountain summit, with a total of about 500 plants (DELWP 2016 cited in DAWE 2021c).	2015 cited in TSSC 2018). The range of the species is approximately 1 km^2 and all sites are considered to be part of the one population. Currently there is no available data to assess the likelihood of extreme fluctuations in *Bossiaea fragrans* (TSSC 2018).
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	<u>*Principle 3 SAII = Yes*</u> Extent of Occurrence (ha) = 18.676 km^2 Area of Occupancy (ha) = 32 km^2 No. Threat-defined locations = <= 3 locations. *Acacia phasmoides* has a highly restricted range and small population size (DAWE 2021c). Many small, isolated subpopulations are subject to the effects of low genetic diversity (Frankham et al. 2014 cited in DAWE 2021c) and stochastic events. It is possible that *Acacia phasmoides* has low genetic diversity (DAWE 2021c). Data deficient –there is currently no documented evidence of extreme fluctuations for *Acacia phasmoides*. Nothing is known of the previous abundance of the NSW population (Sutter 2010).	<u>*Principle 3 SAII = Yes:*</u> *Area of Occupancy (ha) = < 10 km^2* *Extent of Occurrence (ha) = < 100 km^2* *No. Threat-defined locations = <= 3 locations* The species has a very highly restricted geographic range with extent of occurrence (EOO) and area of occupancy (AOO) estimated to be 4-8 km^2 (NSW Scientific Committee 2009). As above. *Bossiaea fragrans* is found at only one location. This species is threatened by environmental and demographic stochasticity due to its very highly restricted distribution and small population size. As a result of the above-mentioned threats*, B. fragrans* is at risk of a projected decline in abundance, geographic distribution or habitat quality (NSW Scientific Committee 2009). Currently there is no available data to assess the likelihood of extreme fluctuations in *Bossiaea fragrans* (TSSC 2018).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site	<u>*Principle 4 SAII = Yes*</u> The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. However, Wattle species are mostly pollinated by insects, particularly bees. Little is known about longevity or generation length of the *Acacia phasmoides* (DAWE 2021c).	<u>Principle 4 SAII = No</u> The species has no known reproductive characteristics that could severely limit the ability to increase the existing population, however, *Bossiaea* species typically have a long-lived seedbank that responds to fire (Auld pers. Comm. May 2008). There are thought to have been no fires in the area since 1939 (McDougall pers. Comm.) and recent observations

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	This species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). Due to the species eligibility for listing (highly restricted range and small population size), all habitat is considered critical to the survival of the species (DAWE 2021c). No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat (DAWE 2021c). The few plants in the NSW subpopulation that grow on private land are affected by invasion of annual grasses (Sutter 2010 cited in DAWE 2021c). The invasion of native plant communities by exotic perennial grasses is listed as a KTP under the Biodiversity Conservation Act in NSW (NSW Scientific Committee 2003). The main threats to this species as described above can reasonably be controlled within a biodiversity stewardship site. This species requires the application of ecological fire management (DPE 2022).	suggest that seed predation (grazing) is significant. The seedbank may therefore be of limited size and viability. Seedling recruitment in the interfire intervals is likely to be limited (Auld pers. Comm. May 2008 cited in NSW Scientific Committee 2009). BioNet states that the species has a high sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). There is no known critical habitat for this species. The life-history traits and ecology of *Bossiaea fragrans* is known. This species requires the application of ecological fire management (DPE 2022). The main threats to this species as described above can reasonably be controlled within a biodiversity stewardship site eg grazing by goats (*Capra hircus*) and pigs (*Sus scrofa*) and competition from weeds, therefore this species is expected to be responsive to management. 'Competition and habitat degradation by Feral Goats, *Capra hircus* is listed as a KTP under the *Biodiversity Conservation Act 2016*. 'Invasion of native plant communities by exotic perennial grasses' is listed as a KTP under the *Biodiversity Conservation Act 2016* (NSW Scientific Committee 2009).
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. A lot of the information is not covered by scientific papers, and there are significant knowledge gaps.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. A lot of the information is not covered by scientific papers, and there are significant knowledge gaps.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
	As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	Potential habitat for *Acacia phasmoides* was detected within the project footprint within the Inland Slopes IBRA Subregion, however the species was not directly recorded during targeted surveys. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The species has not been recorded within 20 km of the project footprint and is only known from one location in NSW: Woomargama National Park in Greater Hume Shire, approximately 60 km south-west of the project footprint. Given the species was not recorded in the project footprint and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species' unit of measure is area. The species was not recorded within the project footprint. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species suitable habitat that would be directly impacted by the project is 2.00 ha.	It is not possible to determine how many individuals comprise the sub-population within the project footprint from the available data. Potentially suitable habitat for *Bossiaea fragrans* occurs within the project footprint within PCT 268 in the Inland Slopes Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total extent of potential habitat that would be directly impacted by the project is 6.1 ha.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW	The project footprint contains 49.05 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 2.00 ha (4%). The extent of occurrence (EOO) was estimated to be 18.676 km^2 (1,867.6 ha) (BCD data package). Therefore, the project would impact less than 0.01% of this species' extent of occurrence. The area of occupancy (AOO)	The project footprint contains 102.93 ha of potential habitat for the species, 6.1 ha (6%) would be impacted by the project. The extent of occurrence and area of occupancy for this species was estimated to be 4-8 km^2 (NSW Scientific Committee 2009). Therefore, the project may impact up to 2-4% of the species' extent of occurrence (as it is not known if

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	was estimated to be 32 km^2 (3,200 ha) (BCD data package). Therefore, the project would impact less than 0.01% of this species' area of occupancy. It is not known whether all of the area of potential impact occurs within the known AOO or EOO. The project would impact on 2.00 ha (4%) of the 49.05 ha of suitable habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	the project footprint intersects with the known EOO or AOO for the species). The project would impact on 6.1 ha (6%) of the 102.93 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	The species has been assumed present within the project footprint due to survey limitations. Despite this, the species is considered unlikely to occur within the project footprint given	*Bossiaea fragrans* has been assumed present within the project footprint due to survey limitations. The species is only known from the Abercrombie Karst Conservation Reserve and

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Acacia phasmoides* Phantom Wattle	*Bossiaea fragrans*
	it is only known from one location in NSW: Woomagarma National Park in Greater Hume Shire. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution, or; the impacted species being unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.	within the adjacent Travelling Stock Reserve, south of Bathurst on the NSW central tablelands. It has a highly restricted distribution, with only a small number of discrete known sub-populations. Given this, the species is considered unlikely to occur within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either a reduction in the population size of the species that is currently observed, estimated, inferred or reasonably suspected to have a very small population size, or due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.2 Caladenia concolor and Caladenia tesselata

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Caladenia concolor***	***Caladenia tessellata* Thick Lip Spider Orchid**
Impact summary	The project would result in direct impacts to a total of 34.10 ha of *Caladenia concolor* habitat, all of which is in moderate to high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 16.00 ha of Thick Lip Spider Orchid habitat (assumed present), all of which is in moderate to very high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Caladenia concolor* is currently known from only 3 populations in the vicinity of Cootamundra, Lake Burrinjuck and Albury. Habitat for the species comprises regrowth woodland on granite ridge country that has retained a high diversity of plant species, including other orchids. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey).	*Caladenia tessellata* is known from the Sydney area (old records), Wyong, Ulladulla and Braidwood in NSW. Generally found in grassy sclerophyll woodland on clay loam or sandy soils, though the population near Braidwood is in low woodland with stony soil. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
	• Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of	***Principle 1 SAII = Yes*** There is insufficient data to show a meaningful trend yet. However, numbers have declined from 2017 despite there being no threatening processes (such as browsing or human disturbance) in Benambra National Park (DPIE 2021h). The main factors that are the cause of the species being eligible for listing in the Endangered category are its restricted area or occupancy and fragmentation and continuing decline in habitat (TSSC 2016b). *Caladenia concolor* is threatened by habitat loss and fragmentation, altered moisture regimes,	***Principle 1 SAII = Yes:*** Long term population data for this species in NSW is not available and generation length is unknown. Therefore, the decline in population of the species in NSW in the past 10 years or three generations has not been estimated. However, there have been continuing declines in the number of populations and individuals within NSW. At least two populations have become extinct since the 1980's and at least 14 populations from the Sydney and South Coast regions have not been recorded since the 1950s (NSWSC 2002). The

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
introduced species, hybridisation, pathogens, pollutants, competitors or parasites	invasive species and too frequent fire (TSSC 2016b). The main threats facing this orchid relate to its small population size and lack of recruitment, so propagation and reintroduction to bolster the existing wild population are key to its long-term survival (DPIE 2021h).	apparent loss of some subpopulations has resulted in a decrease in the number of subpopulations and individuals within NSW (DAWE 2021). The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect. The decline in population of the species in NSW in the past 10 years or three generations based on the listed threats has not been estimated. Decline in habitat quality is likely to be a factor for this species as a result of altered fire intervals since European settlement, disturbance from exotic pest animals such as pigs and possibly vegetation competition (DPIE 2021e).
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** Only two populations, totalling around 600 individuals occur in New South Wales: one on hills near Albury, and the other in Benambra National Park (DPIE 2021h). There is insufficient data to show a meaningful trend yet. However, numbers have declined from 2017 despite there being no threatening processes (such as browsing or human disturbance) in Benambra National Park (DPIE 2021h). The current NSW Scientific Committee listing incorporates two populations which have each been described as separate species by D.L. Jones. One of these populations comprises a few hundred plants on private property near Bethungra and the other of about 100 plants occurs in Burrinjuck Nature reserve. The other occurrences of *Caladenia concolor* in NSW are from the Nail Can Hill Crown Reserve near Albury. The species also occurs at two localities in Victoria near Beechworth and Chiltern (DPE 2022). Currently there is no available data to assess the likelihood of extreme fluctuations in *Caladenia concolor*.	***Principle 2 SAII = No:*** The most recent estimate total population size for this species from three subpopulations in NSW was 1,041 plants (DAWE 2021). However, population numbers are likely to be underestimates due to the suppression of flowering in the absence of recent fire. Approximately 100 flowering plants were known at the Morton National Park subpopulation as at 2019 (Coutts-McClelland 2021 pers. comm. 17 Sept cited in DAWE 2021) but over 1000 flowering individuals were counted in September 2020 following the 2019-20 bushfires which burnt the area (Phillips 2021 pers. comm. 17 September cited in DAWE 2021). There are no long term survey data, therefore it is not possible to directly estimate the rate of population decline (DAWE 2021). Annual monitoring and targeted surveys of two priority management sites, one in Morton National Park and the other in the Braidwood areas were conducted from 2016 to 2020 (DPIE 2021e). The population at the Morton National Park site is considered to be stable and possibly increasing with approximately 25 individuals recorded in permanent plots in

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
		2016 and approximately 60 individuals recorded in 2020. However, the total number of flowering plants observed outside of the permanent plots in 2020 was far higher (DPIE 2021e). The Braidwood population appears to be slowly declining with 10 individuals recorded in permanent plots in 2016 and approximately 6 recorded in 2020 (DPIE 2021e). While there are few regular surveys there are insufficient data to characterise trends in extant subpopulations (DPIE 2021e). Therefore, the decline in population of the species in NSW in the past 10 years or three generations has not been estimated. The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect. The total number of mature individuals of this species is low (DAWE 2021). In NSW, no estimates are available on the number of mature individuals. Approximately 1,014 individual plants were recorded in the Moreton subpopulation in 2020, <10 were recorded at a private property in Braidwood in 2021 and 17 individuals were recorded in the Nadgee Nature Reserve in 2020 (DAWE 2021). The species is not subject to extreme fluctuations in population size as plants are long-lived and capable of persisting in a dormant or non-flowering state (DAWE 2021).
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and	***Principle 3 SAII = Yes*** • *Area of Occupancy (ha) = 72 km²* • *Extent of Occurrence (ha) = 12,339.516 km²* • *No. Threat-defined locations = <= 3 locations* Extent of Occurrence: 12,339.516 km² (BCD data package) Area of Occupancy: 72 km² (BCD data package) Number of threat-defined locations: There is insufficient data	***Principle 3 SAII = Yes:*** *Extent of Occurrence (ha) = 1,137.411 km²* *Area of Occupancy (ha) = 124.000 km²* Extent of occurrence: The data package provided by BCD lists the extent of occurrence of this species in NSW as 1,137 km² . Area of Occupancy: The data package provided by BCD lists the Area of Occupancy for this species is approximately 124 km².

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
▪ whether the species' population is likely to undergo extreme fluctuations	to determine the number of threat-defined locations for this species. The species is currently known from only 3 populations in the vicinity of Cootamundra, Lake Burrinjuck and Albury. This species could be threatened by environmental and demographic stochasticity due to its very highly restricted distribution and small population size. Extreme fluctuations: There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations.	This includes the two known subpopulations at Morton National Park and near Braidwood and a third in Nadgee Nature Reserve (DAWE 2021). Number of threat-defined locations: <= 3 locations. The species is widespread but occurrence is patchy (DAWE 2021). The current distribution of this species is known, further identification of threat-defined locations is unlikely to occur. However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. Extreme fluctuations in number: The species is not subject to extreme fluctuations in population size as plants are long-lived and capable of persisting in a dormant or non-flowering state (DAWE 2021). Threats to these populations is from habitat destruction and degradation, inappropriate fire regimes, grazing and trampling by invasive and native herbivores and increased frequency of droughts due to climate change (DAWE 2021).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = No*** There is very little known about the ecology of *Caladenia concolor* (NSW NPWS 2003 cited in TSSC 2016b). The species has no known reproductive characteristics that could severely limit the ability to increase the existing population, however, most terrestrial orchids have evolved under conditions of hot summer fires, generally when the plants have been dormant (Backhouse & Jeanes 1995 cited in TSSC 2016b). Some *Caladenia* species flower vigorously following hot summer fires (Backhouse & Jeanes 1995; Todd 2000 cited in TSSC 2016b). However, this may be as much the result of the removal of surrounding vegetation and reduced competition as any chemical effect of the fire (Backhouse & Jeanes 1995 cited in TSSC 2016b). The timing of fire for orchids is important, with the best time during late summer or early autumn, after seed	***Principle 4 SAII = No:*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population (DAWE 2021). The species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). The long-term persistence of suitable mycorrhizal fungi is critical for ongoing recruitment however, there is no known critical habitat for this species (DAWE 2021). Key threatening processes can reasonably be controlled within a biodiversity stewardship site (eg habitat degradation/loss by development, trampling and grazing by domestic stock or feral pest species and population loss by feral pigs), therefore this species is expected to be responsive to management.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
	dispersal but prior to new plant emergence (TSSC 2016b). BioNet states that the species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). There is no known critical habitat for this species (DPE 2022). There is very little known about the ecology of *Caladenia concolor* (NSW NPWS 2003 cited in TSSC 216b). This species requires the application of ecological fire management (DPE 2022). The main threats to this species as described above can reasonably be controlled within a biodiversity stewardship site.	
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	Some of the questions in this consideration of SAII cannot be assessed at this time because: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information we have readily available.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and	Potential habitat for *Caladenia concolor* was detected within the project footprint within PCTs 268, 280 and 290 in the Murrumbateman and Inland Slopes Subregions. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are 7 records near the project (43 individuals), and the closest is 4 km from the	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Caladenia tessellata* was detected within the project footprint within the Bungonia IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate,

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	project footprint (DPE 2022).Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The project would result in the direct impact to 34.10 ha of potential habitat for Crimson Spider Orchid in the project footprint.	species presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). Given the species was not recorded and is only assumed present within potential habitat, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within potential habitat The total area of this species habitat to be directly impacted by the project is 16.00 ha. However, given that this species was not recorded on the site during targeted surveys, there are no nearby records within 20 km of the site and similar habitat in the surrounding landscape would be retained, it is unlikely that the project would impact the local population for this species.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports,	The project footprint contains 103.32 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 34.10 ha (33%). The extent of occurrence (EOO) was estimated to be 12,339.516 km^2 (1,233,951.5 ha) BCD data package). Therefore, the project may impact up to 0.002% of this species' extent of occurrence. The area of occupancy (AOO) was estimated to be 72 km^2 (7,200 ha) (BCD data package). Therefore, the project may impact up to 0.48% of this species' extent of occurrence. The project would impact on 34.10 ha (33%) of the 103.32 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were	The project footprint comprises 297.52 ha of suitable habitat, 16.00 ha (5%) of this would be impacted by the project. The extent of occurrence (EOO) was estimated to be 1,137 km^2 (113,700 ha) (BCD data package). Therefore, the project may impact less than 0.02% of the species' extent of occurrence, as it is unknown if the potential habitat intersects with the known EOO for the species. The area of occupancy (AOO) was estimated to be 124 $km^{2,}$ (12,400 ha) therefore the project may impact up to 0.14 % of the AOO for the species, as it is unknown if the potential habitat intersects with the known AOO for the species. The project would impact on 16.00 ha (5%) of the 297.52 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	*Caladenia concolor* has been assumed present over a portion of the project footprint due to survey limitations. The species has a low likelihood of occurrence. Known populations are limited to a property near Bethungra and within Burrinjuck Nature Reserve. Requires woodland with a high diversity of plant species. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either causing a further decline of the species that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline or due to an impact on the habitat of the	*Caladenia tessellata* has been assumed present over a portion of the project footprint due to survey limitations. No known populations occur within proximity to the project footprint and the species likelihood of occurrence is considered low. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either causing a further decline of the species that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline or due to an impact on the habitat of the species that is currently observed, estimated, inferred or

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Caladenia concolor*	*Caladenia tessellata* Thick Lip Spider Orchid
	species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	reasonably suspected to have a very limited geographic distribution.

3.1.3 Calotis glandulosa and Diuris ochroma

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Calotis glandulosa* Mauve Burr-daisy**	***Diuris ochroma* Pale Golden Moths**
Impact summary	The project would result in direct impacts to a total of 16.00 ha of Mauve Burr-daisy habitat (assumed presence), the majority (99%) of which is in high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 0.25 ha of Pale Golden Moths habitat (assumed presence), in high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Calotis glandulosa* is found in montane and subalpine grasslands in the Australian Alps. The species is known to occur at three sites in the upper Shoalhaven catchment. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23).	*Diuris Ochroma* is occurs in south-eastern NSW on the sub-alpine plains of Kosciuszko National Park and the Kybean area. The species is found in grassland and sub-alpine open woodland above 900 m in altitude, on brown loam over shale, with scattered trees of *Eucalyptus pauciflora* (Snow Gum) and *Eucalyptus viminalis* (Manna Gum) (DPE 2005). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Design refinements to avoid impacts where practicable (B32) • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
	• Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species;	***Principle 1 SAII = Yes*** Long term population data for this species in NSW is not available. *Calotis glandulosa* are ascending or erect branched perennials (Davis 1952), however generation length is unknown. Therefore, the decline in population of the species in NSW in the past 10 years or three generations has not been estimated. The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer	***Principle 1 SAII = No:*** In NSW, this species is restricted to a single population in the Kybeyan area, Monaro Tableland (DPE 2005). Approximately 70 mature individuals were recorded at the site during targeted surveys of the Kybeyan area in December 2003 (Miles & McPherson 2004 cited in DPE 2005). In 2008, this population contained an estimated 130 mature individuals (TSSC 2016). However, searches of other two previously known reliable locations in Kosciuszko National Park, as well as suitable

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	reviewed information about the species is limited and does not address this aspect. The decline in population of the species in NSW in the past 10 years or three generations based on the listed threats has not been estimated. However, this species faces many threats which are likely to have contributed to its low population, including habitat degradation by development and agriculture, invasion of exotic weeds, and grazing by domestic stock and population loss by feral pigs (TSSC 2008, DPIE 2021d).	habitat elsewhere within the district were not successful in 30 years as of 2008, indicating a declining population of the species in NSW over that period (NSW Scientific Committee 2005, 2008 as cited in TSSC 2016). Populations of this species have reduced and occur in severely fragmented ecosystems (Coates et al., 2002). The *Diuris ochroma* is a herbaceous perennial geophyte that dies back annually to one or two oblong underground tubers (TSSC 2016), however the generation length is not stated. The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because there is insufficient long term population data for this species in NSW and generation length is unknown. The decline in population of the species in NSW in the past 10 years or three generations based on the listed threats has not been estimated. Decline in geographic distribution and/or habitat quality is likely to be a factor for this species as a result the threats of grazing and trampling (pigs), weed invasion, habitat loss and degradation (vegetation clearing for agricultural purposes, development, road/track works), restricted distribution (only known in one location in NSW) and poor recruitment (TSSC 2016).
• Evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** Population data for this species is available from four key sites NSW. In 2020-21 the number of individuals was; <1,500 at Back Creek Travelling Stock Reserve (TSR), <2,000 at Bibbenluke Common, approximately 300 at Nungar Plain and approximately 500 at Lake Eucumbene sites (DPIE 2021d). Population data for this species is available from four key sites in NSW from 2017-18 to 2020-21. Management actions, as well as higher than average winter rainfall in 2020, have helped this species recover at three priority management sites (DPIE 2021d). The number of individuals recorded is as follows:	***Principle 2 SAII = Yes*** In NSW, this species is confined to a single population containing 130 plants in the Kybeyan area (TSSC 2016). This suggests the species fragility. The most recent population records are from 2003 and 2008. Therefore, there is insufficient data to estimate the decline in the species' population size in NSW in three years or one generation. In NSW, no estimates are available on the number of mature individuals. Approximately 130 individuals were recorded in the single Kybeyan area population. The amount of mature individuals is not given.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
	Increased from <500 in 2017-18 to <1,500 in 2020-21 at Back Creek TSR (DPIE 2021d). Increased from approximately 200 in 2018-19 to <2,000 in 2020-21 at Bibbenluke Common (DPIE 2021d). Increased from approximately 300 in 2018-19 to approximately 200 in 2020-21. The Nungar Plain site was burnt by the 2019–20 fires, but the population has recovered to almost pre-fire levels (DPIE 2021d). Increased from approximately 200 in 2018-19 to approximately 500 in 2020-21 at Lake Eucumbene sites (DPIE 2021d). This species is endemic to NSW and is generally known from montane and subalpine grasslands in the Monaro and Kosciuszko regions (TSSC 2008). In NSW, no estimates are currently available on the number of mature individuals. Therefore, estimates of the number of mature individuals in each subpopulation have not been provided. There is insufficient data to determine whether the species population size would be likely to undergo extreme fluctuations.	
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No:*** Extent of Occurrence:73,935.733 km^2 (BCD data package) Area of Occupancy: 440 km^2 (BCD data package) Number of threat-defined locations: There is insufficient data to determine the number of threat-defined locations for this species. This species is generally known from subalpine grassland and montane or natural temperate grassland dominated by *Themeda australis (*Kangaroo Grass) and *Eucalyptus pauciflora (Snow Gum*) Woodlands on the Monaro and Shoalhaven area (TSSC 2008). This species faces many threats and does not persist in heavily-grazed pastures of the Monaro or the Shoalhaven area, suggesting that grazing may have led to a decline in abundance throughout its range (Benson 1994 cited in TSSC 2008).	***Principle 3 SAII = Yes:*** Extent of Occurrence (ha) = 55,361.495 km^2 Area of Occupancy (ha) = 60.000 km^2 Extent of occurrence: The data package provided by BCD lists the extent of occurrence of this species in NSW is 55,361.495 km^2 .The size and area inhabited by the existing population of *Diuris ochroma* is limited in geographic range. The single known population in NSW is in an area of less than 4 km^2 in size (NSW Scientific Committee 2008 as cited in TSSC 2016). Area of Occupancy: The data package provided by BCD lists the Area of Occupancy for this species is approximately 60 km^2. No Threat-defined locations = <= 3 locations. Vegetation associations at known sites are typically subalpine open

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
	Extreme fluctuations: There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations.	woodland above 900m in altitude (TSSC, 2016). The current distribution of this species is known, further identification of threat-defined locations is unlikely to occur. However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations. Demographic stochasticity is likely to be a factor for this species due to its small population size (Miles & McPherson 2004 as cited in TSSC 2016).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = No:*** This species has no known reproductive characteristics that could severely limit the ability to occupy new habitat on a biodiversity stewardship site (TSSC 2008). This species is generally known from montane and subalpine grasslands in the Monaro and Kosciuszko regions as well as the Shoalhaven catchment (TSSC 2008). The species does not appear to be reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site. More precise information on ecological requirements is a research priority (TSSC 2008) and, presumably, information on life history. The species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). Key threatening processes can be reasonably controlled within a biodiversity stewardship site (eg habitat degradation/loss by development, trampling and grazing by domestic stock or feral pest species and population loss by feral pigs), therefore this species is expected to be responsive to management.	***Principle 4 SAII = No:*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. The species may require open herbaceous vegetation maintained by regular burning (DSE 2003 cited in TSSC, 2016). Pollination of *Diuris* spp. is mainly by small native bees attracted to the bright floral colours. Variations in seasonal climatic conditions, most notably rainfall and temperature influence flowering, which in turn could influence pollination (TSSC 2016). The species has a moderate sensitivity to gain dependent on the effectiveness of management to control threats. There is no known critical habitat for this species (DPIE 2022). The life-history traits and ecology of *Diurus ochroma* is known. Key threatening processes can reasonably be controlled within a biodiversity stewardship site (eg habitat degradation/loss by development, trampling and grazing by domestic stock or feral pest species, population loss by feral pigs), therefore this species is expected to be responsive to management.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.).	Some of the questions in this consideration of SAII cannot be assessed at this time because:

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
	Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	• The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information we have readily available.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Calotis glandulosa* was detected within the project footprint within the Bondo and Snowy Mountains IBRA Subregions. Targeted flora surveys undertaken in areas of suitable habitat within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no BioNet records within 20 km of the project footprint (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present in inaccessible areas, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not recorded within the project footprint despite targeted surveys in accessible land. Some areas of potential suitable habitat	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Diuris ochroma* was detected within the project footprint within the Snowy Mountains IBRA Subregion. Targeted flora surveys undertaken in areas of suitable habitat within the project footprint did not locate the species, as such a percentage present in the subpopulation of the total population cannot be attained. There are no BioNet records within 20 km of the project footprint (DPE 2022). Where survey effort was not adequate, species presence has been assumed within potential habitat based on associated PCTs and other available desktop data including vegetation condition. In NSW, this species is confined to a single population, in 2008, this population contained an estimated 130 mature individuals in the Kybeyan area (TSSC 2016). Given the species was not recorded and is only assumed present in inaccessible areas, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
	within the project footprint was inaccessible for surveys, therefore the species has been assumed present in these areas. The total area of this species habitat to be directly impacted by the project is 16.00 ha. However, given that this species was not recorded on the site during targeted surveys, there are no nearby records within 20 km of the site and similar habitat in the surrounding landscape would be retained, it is unlikely that the project would impact the local population for this species.	immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within potential habitat. The total area of this species habitat to be directly impacted by the project is 0.25 ha.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in	The project footprint comprises 104.34 ha of suitable habitat, of this the project would impact on 16.00 ha (15%). The extent of occurrence (EOO) was estimated to be 73,935.733 km^2 (7,393,573.3 ha). Therefore, the project may impact less than 0.0004% of the species' extent of occurrence. The area of occupancy (AOO) was estimated to be 440 $km^{2,}$ (44,000 ha) therefore the project may impact up to 0.06 % of the AOO for the species. The project would impact 16.00 ha of suitable habitat for this species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon for which adequate survey effort was not achieved, species presence has been assumed. As such, the number of individuals cannot be quantified. Given that the species was not recorded on the site and there are no nearby records within 20 km of the site, the species is not likely to be fragmented by the project. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present the project would not create a barrier to dispersal of the species.	The project footprint comprises 8.83 ha of potential habitat, 0.25 ha (3%) of this would be impacted by the project. The extent of occurrence (EOO) was estimated to be 55,361.495 km^2 (5,536,149.5 ha) (BCD data package). Therefore, the project would impact 0.000005% of this species' extent of occurrence. The area of occupancy (AOO) was estimated to be 60 $km^{2,}$ (6,000 ha) therefore the project would impact 0.004 % of the AOO for the species. The project would impact on 0.25 ha (3%) of the 8.83 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint. The project would impact on 0.25 ha of potential habitat for the species in the form of associated PCTs within the project footprint. However, the species was not recorded on the site and there are no nearby records within 20 km of the site,

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Calotis glandulosa* Mauve Burr-daisy	*Diuris ochroma* Pale Golden Moths
environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The project is not likely to increase any of the above listed threats to the species because there are no nearby records of this species within 20 km of the project footprint. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint.	therefore the species is not likely to be fragmented by the project. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, the project would not create a barrier to dispersal of the species.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	*Calotis glandulosa* has been assumed present over 16.00 ha of the project footprint due to survey limitations. The species is known from three sites in the upper Shoalhaven catchment. Whilst it is a coloniser of disturbed lands it does not tolerate heavy grazing. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to causing a further decline of the species that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline.	*Diuris ochroma* has been assumed present over 0.25 ha of the project footprint due to survey limitations. Known populations of the species are limited to Kosciuszko National Park and the Kybean area in NSW. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either further reducing the population size of the species that is currently observed, estimated, inferred or reasonably suspected to have a very small population size, or due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.4 Eucalyptus alligatrix subsp. alligatrix and Eucalyptus robertsonii subsp. hemisphaerica

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Eucalyptus alligatrix subsp. alligatrix***	***Eucalyptus robertsonii subsp. hemisphaerica* Robertson's Peppermint**
Impact summary	The project would result in direct impacts to a total of 1.14 ha of *Eucalyptus alligatrix* subsp. *alligatrix* habitat (assumed presence), all of which is in moderate to high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 0.29 ha of Robertson's Peppermint habitat (assumed presence), all of which is in moderate condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Eucalyptus alligatrix* subsp. *alligatrix* has been identified in NSW as a single population in Rylstone in Mid-Western Regional LGA (DPE 2015b). The species' habitat comprises of dry sclerophyll woodland on shallow relatively infertile soils (grey brown loam with ironstone). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23).	*Eucalyptus robertsonii* subsp. *hemisphaerica* is known only from the central tablelands of NSW, at small disjunct localities from north of Orange to Burraga. The species' habitat is found in closed grassy woodland in locally sheltered sites. Is found on lighter soils, often on granite or quartzite, with low to medium nutrients (TSSC 2012b). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing,

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Eucalyptus alligatrix subsp. alligatrix*	*Eucalyptus robertsonii subsp. hemisphaerica* Robertson's Peppermint
	• Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic	***Principle 1 SAII = No*** DPE has not determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). There is no data available on the decline in population of the species in the past 10 years or three generations. There is no data available on the decline in population of the species in the past 10 years or three generations as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites. Key threats to the species (DPE 2022) include:	***Principle 1 SAII = No*** DPE has not determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). There is no data available on the decline in population of the species in the past 10 years or three generations. There is no data available on the decline in population of the species in the past 10 years or three generations as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites. Key threats to the species (DPE 2022) include:

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distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	• Habitat loss: Vegetation clearing for agricultural purposes: Historic clearing and modification for land use • Overgrazing: domestic stock may affect regeneration • Demographic threats: Restricted distribution; small population size • Land management practices: uncertainty of future land management practices: potential for change in land use such as coal mining, subdivision or changed grazing practices • Pest animal: Rabbits: Suppression of regeneration.	• Land management practices: Uncertainty of future land management practices: Clearing and land use related impacts, including forestry, grazing and road maintenance activities • Demographic threats: Poor recruitment: Senescence and lack of regeneration, especially as older even-aged stands die off with no recruitment of juveniles in presence of other threats; Restricted distribution: Restricted distribution and low abundance of local populations render the species vulnerable to extinction from stochastic events • Lack of knowledge: Insufficient understanding of species' phylogeny; Insufficient understanding of distribution and/or abundance; Insufficient understanding of threatening process
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). DPE (2015b) estimates the current population size as < 1000 individuals. An annual report from Save Our Species indicates that over a four-year period, the population was relatively stable with 100% juvenile survival, however, several mature trees were lost to drought (DPE 2015b). There is no data available on the estimate of mature individuals in the population.	***Principle 2 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). DPE (2022) estimates current population in NSW as < 50 or <250 individuals. TSSC (2012b) indicates there are 15 known point records. There is insufficient data to determine an estimate of a decline in the population over the last three years or one generation. There is no data available on the estimate of mature individuals in the population.
• evidence of limited geographic range for the threatened species	***Principle 3 SAII = Yes*** *Extent of Occurrence (ha) = 0.069 km^2*	***Principle 3 SAII = Yes***

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Eucalyptus alligatrix subsp. alligatrix*	*Eucalyptus robertsonii subsp. hemisphaerica* Robertson's Peppermint
(Principle 3, clause 6.7(2)I BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	*Area of Occupancy (ha) = 4.000 km^2* DPE have determined that this species is at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). Extent of occurrence: The data package provided by BCD lists the extent of occurrence of this species in NSW as 0.069 km^2 . The species has been identified in NSW as a single population in Rylstone in Mid-Western Regional LGA (DPE 2015b) and is limited in geographic range. Area of Occupancy: The data package provided by BCD lists the Area of Occupancy for this species is approximately 4 km^2.The species population in Rylstone covers an area of approximately 266 ha (DPE 2015b). There is a single threat-defined location in Rylstone, NSW. A single threatening event may rapidly affect all species occurrence (DPE 2015b). There is no information/evidence of this species experiencing extreme fluctuations in population size or habitat.	DPE have determined that this species is at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). There is no data available on the calculated extent of occurrence (EOO). There is no data available on the calculated Area of occurrence (AOO). The species distribution exists at a limited location and is projected to decline in area of occupancy and number of mature individuals as a result of clearing (TSSC 2012b). There is no information/evidence of this species experiencing extreme fluctuations in population size or habitat.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst	***Principle 4 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). This species has no known characteristics that could severely limit its ability to increase on a biodiversity stewardship site. The habitat for *E. alligatrix* subsp. *alligatrix* comprises of dry sclerophyll woodland on shallow relatively infertile soils (grey-brown loam with ironstone). At present, no critical habitat has been identified or declared. The ability to control key threats at a biodiversity stewardship site is thought to be possible. The species has a high sensitivity to gain (DPE 2022). The removal of feral animals through fencing and control	***Principle 4 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). This species has no known characteristics that could severely limit its ability to increase on a biodiversity stewardship site. The habitat for *E.robertsonii* subsp. *hemisphaerica* is found in closed grassy woodland in locally sheltered sites. is found on lighter soils, often on granite or quartzite, with low to medium nutrients (TSSC 2012b). At present, no critical habitat has been identified or declared. The ability to control key threats at a biodiversity stewardship site is thought to be possible. The species has a high sensitivity to gain (DPE 2022). To mitigate habitat loss and poor land management would be fulfilled by conserving a stewardship site.

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systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	programs is achievable. To mitigate habitat loss and poor land management would be fulfilled by conserving a stewardship site.	
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited. A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation)	Suitable habitat for *Eucalyptus alligatrix subsp. alligatrix* was detected within the project footprint within PCTs 287 and 290 in the Inland Slopes IBRA subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present, and the	Suitable habitat for *Eucalyptus robertsonii subsp. hemispharica* was detected within the project footprint within PCTs 352 and 727 in the Crookwell and Inland Slopes IBRA subregions. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present, and the limited

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Eucalyptus alligatrix subsp. alligatrix*	*Eucalyptus robertsonii subsp. hemisphaerica* Robertson's Peppermint
and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 1.14 ha of potential habitat for *Eucalyptus alligatrix subsp. alligatrix*. The species unit of measure is count. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species habitat that would be impacted by the project is 1.14 ha.	information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 0.29 ha of potential habitat for *Eucalyptus robertsonii subsp. Hemispharica* in the Crookwell IBRA subregion. The species unit of measure is count. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species habitat that would be impacted by the project is 0.29 ha in the Crookwell IBRA region.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted	The project footprint comprises of 52.86 ha of potential habitat for the species, 1.14 ha (2%) of which would be impacted by the project. The extent of occurrence (EOO) was estimated to be 0.069 km^2 (69 ha). Therefore, the project would impact less than 2.8% of the species' extent of occurrence. The area of occupancy (AOO) was estimated to be 4 $km^{2,}$ (400 ha), therefore the project would impact 0.5 % of the AOO for the species. The project would impact on 1.14 ha (2%) of the 52.86 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely	The project footprint comprises of 12.96 ha (5.87 ha in Crookwell and 7.09 ha in Inland Slopes) of potential habitat for the species, 0.29 ha (2%) of which would be impacted by the project, wholly within the Crookwell IBRA subregion. However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact on 0.29 ha (2%) of the 12.96 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is

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▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ To determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species,	unaffected. Therefore, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).

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the assessor may refer to the relevant sections of the BDAR or BCAR.		
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	*Eucalyptus alligatrix subsp. alligatrix* has been assumed present over a portion of the project footprint due to survey limitations. The species is only known from a single population south-west of Rylstone. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	*Eucalyptus robertsonii subsp. hemisphaerica* has been assumed present over a portion of the project footprint due to survey limitations. The species is known only from the central tablelands of NSW north of Orange to Burraga. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either further reducing the population size of the species that is currently observed, estimated, inferred or reasonably suspected to have a very small population size, or due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.5 Euphrasia arguta and Euphrasia scabra

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
Impact summary	The project would result in direct impacts to a total of 92.90 ha of *Euphrasia arguta* habitat, 15% of which is in moderate to high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 1.90 ha of Rough Eyebright habitat (assumed presence), 94 % of which is in high to very high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Euphrasia arguta***	***Euphrasia scabra* Rough Eyebright**
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Euphrasia arguta* was rediscovered in the Nundle area of the NSW north western slopes and tablelands in 2008. Prior to this, it had not been collected for 100 years. Historically, *Euphrasia arguta* has only been recorded from relatively few places within an area extending from Sydney to Bathurst and north to Walcha. The Royal Botanic Gardens Specimen Register records an additional location reported and vouchered in 2002 from near the Hastings River; and E*uphrasia arguta* was also recorded from the Barrington Tops in 2012. The species occurs in the open forest country around Bathurst in sub humid places', 'on the grassy country near Bathurst', and 'in meadows near rivers'. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23).	There are three extant populations of *Euphrasia scabra* in NSW: Bondi State Forest, South East Forests National Park and near Nunnock Swamp. Total NSW population is between 250 and 500 plants. This number varies with season with few plants appearing in some years. The species occurs in or at the margins of swampy grassland or in sphagnum bogs, often in wet, peaty soil. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
	• Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = No*** *Euphrasia arguta* had not been seen for over 100 years prior to its rediscovery in 2008. Subsequently, plants have been found at six sites spanning up to 25 km apart, with one population of over 15 000 plants and others ranging from 20–1000 plants. In 2009, the total population was estimated to be more than 16 000 individuals. There are no data on the species' abundance for the intervening period (TSSC 2011). The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect. The most abundant population has declined due to repeated clearing and could continue to decline in the absence of an	***Principle 1 SAII = No*** Long term population data is not available for this annual species in NSW. Therefore, population estimates cannot be accurately determined. The species is known from only eight New South Wales populations (DPE 1999). Until 1999, the most recent is dated 1899 from the Jenolan Caves area. Other collections were made in the late 1800's from Port Jackson, Bathurst Plains, Lake George, Jindabyne, Yarrangobilly Caves and Tumbarumba. The species has been found in 1999 and 2014 in Bondi State Forest with a population estimated at 300 plants (DPE 1999), as well as in the Glenbog State Forest (DPE 2022a).

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	appropriate management regime. As this population represents greater than 90% of the known individuals of the species this suggests that the species' distribution is precarious for its survival (TSSC 2011).	Long term population data is not available for this species in NSW. However, key threats to the species, which are likely to have contributed to its low population are: Habitat disturbance: grazing Weed Invasion: Mixed weeds causing loss/ and degradation of habitat and inhibit recruitment Habitat loss/fragmentation: Loss of key habitat. Demographic threats: Small population size (DPE 1999).
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** In 2009 the total population size of *Euphrasia arguta* was estimated to be 16 000 individuals. There are no data on the species' abundance for the intervening period (TSSC 2011). There is insufficient data to determine an estimate of a decline in the population over the last three years or one generation. However, as noted above, the most abundant population has declined due to repeated clearing and could continue to decline in the absence of an appropriate management regime (TSSC 2011). As of 2009, plants have been found at six sites spanning up to 25 km apart, with one population of over 15 000 plants and others ranging from 20–1000 plants. In 2009 the total population size of *Euphrasia arguta* was estimated to be 16 000 individuals. While the species' reproductive biology is poorly known, the fact that fruits produce "many seeds" (Benson and McDougall, 2001, cited in TSSC 2011) suggests the potential for rapid population growth under good conditions. However, clearing occurred in the area of the largest population December 2009 and the current number of mature individuals is unknown (TSSC 2011).	***Principle 2 SAII = No*** There are three extant populations in NSW: Bondi State Forest, South East Forests National Park and near Nunnock Swamp with a total population between 250 and 500 plants (OEH 2018). This number varies with season with few plants appearing in some years (OEH 2018). The population found in Bondi State Forest which numbered approximately 300 plants in 1999 (DPE 1999). BioNet record data shows an additional population was found in the Glenbog State Forest in 2014 however, the population size is not provided (DPE 2022a). There is insufficient data to determine an estimate of a decline in the population over the last three years or one generation. There is insufficient data to determine an estimate of the number of mature individuals.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence	***Principle 3 SAII = Yes:*** *Extent of Occurrence (ha) = 7,161.929 km^2* *Area of Occupancy (ha) = 28 km^2*	***Principle 3 SAII = Yes:*** *Extent of Occurrence (ha) = 428.742km^2* *Area of Occupancy (ha) = 24 km^2*

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	*No. Threat-defined locations = <= 3 locations* Extent of Occurrence (ha) = 7,161.929 km^2 (BCD data package) Area of Occupancy (ha) = 28 km^2 (BCD data package). No. Threat-defined locations = <= 3 location (DPE 2022). The species is known from six sites up to 25 km apart in the area of Nundle State Forest, south-east of Tamworth, NSW (Binns, pers. comm., 2009, cited in DSEWPAC 2011). All sites are in the Nandewar Bioregion of northern New South Wales, in the south-east section of Namoi NRM region (DSEWPAC 2011). The extent of occurrence of *Euphrasia arguta* is less than 100 km^2. Its known area of occupancy in 2009 was approximately 0.03 km^2. Of the six populations known in 2009, three are located in a cluster within approximately 2 km of each other, while the others are isolated by between 9 and 20 km (TSSC 2011). Any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population (TSSC 2011). While the species' reproductive biology is poorly known, the fact that fruits produce "many seeds" (Benson and McDougall, 2001, cited in TSSC 2011) suggests the potential for rapid population growth under good conditions (TSSC 2011).	*No. Threat-defined locations = <= 3 locations* Extent of Occurrence (ha) = 428.742km^2 (BCD data package) Area of Occupancy (ha) = 24 km^2 (BCD data package). No. Threat-defined locations = <= 3 location (DPE 2022). There are three extant populations in NSW: Bondi State Forest, South East Forests National Park and near Nunnock Swamp (OEH 2018). Vegetation associations at known sites are typically in or at the margins of swampy grassland or in sphagnum bogs, often in wet, peaty soil (OEH 2018). The current distribution of this species is known, further identification of threat-defined locations is unlikely to occur. However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. OEH (2018) states that large, unexplained spatial fluctuations in population numbers are a threat to this species. DPE (1999) states that this species is susceptible to catastrophic events due to the fragmented nature of the populations and their small size.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. This species is semi-parasitic and attaches to the roots of other associated plants (OEH 2020). This species has a high sensitivity to gain, although the ecology or response to management is poorly known (DPE 2022). The species is not reliant on abiotic factors that cannot be restored or replaced on a biodiversity stewardship site. The main identified threat to *Euphrasia arguta* is road maintenance and clearing of roadside vegetation for fire	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. This species has a high sensitivity to gain dependent although the ecology or response to management is poorly known (DPE 2022). This species habitat constraint is Montane bogs or within 50 m of Montane bogs (DPE 2022). The species requirement for certain habitat may be difficult to be replicated at biodiversity stewardship sites.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	breaks (TSSC 2011a). Other threats include browsing by domestic stock, rabbits and macropods; however populations of these animals are currently sufficiently low that it appears not to be a current significant threat (Binns, pers. comm., 2009, cited in TSSC 23011a). As some of the known individuals occur on private land there is also a potential threat from land clearing (TSSC 2011a). The majority of these threatening processes can be reasonably controlled within a biodiversity stewardship site, therefore this species is expected to be responsive to management.	The main threat to *Euphrasia scabra* is habitat disturbance including grazing and weed invasion (DPE 1999). Key threatening processes associated with this species include: • Insufficient understanding: Lack of knowledge about species and microhabitat required for successful germination and survival. • Demographic threats: small population size. • Pest animals: Foraging and browsing activity of feral pigs and deer. • Weeds: *Rubus spp*. and potentially Holcus lanatus can exclude this species from habitat. • Habitat loss and disturbance: Disturbance from recreational 4WDs and domesticated stock. • Climate change: Changes to swamp hydrology and vegetation (DEP 2022). The majority of these key threatening processes can be reasonably controlled within a biodiversity stewardship site, therefore this species is expected to be responsive to management.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	Habitat for *Euphrasia arguta* was detected within the project footprint in the Inland slopes BRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no nearby records (within 20 km of the project footprint, with only 1 previous record in the Inland Slopes Bioregion (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species' unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species suitable habitat that would be directly impacted by the project is 92.90 ha.	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Euphrasia scabra* was detected within the project footprint in the Snowy Mountains IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within potential habitat. There are no records within 20 km of the project (DPE 2022). Given the species was not recorded and is only assumed present in inaccessible areas, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within potential habitat. The total area of this species habitat to be directly impacted by the project is 1.90 ha.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect	The project footprint contains 1,254.03 ha of suitable habitat for *Euphrasia arguta*, of this the project would impact on 92.90 ha (7%). The extent of occurrence (EOO) was estimated to be 7,161.929 km^2 (716,192.9 ha) (BCD data package). Therefore, the project may impact up to 0.013% of this species' EOO. The area of occupancy (AOO) was estimated to be 28 km^2 (2,800 ha) (BCD data package). Therefore, the project may impact up to 3.3% of this species' AOO. The project would impact on 92.90 ha (7%) of the 1,254.03 ha of suitable habitat for the species within the project footprint.	The project footprint comprises 6.20 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 1.90 ha (30%). The extent of occurrence (EOO) is estimated to be 428.742 km^2 (42,874.2 ha) (BCD data package). Therefore, the project would impact 0.004% of this species' extent of occurrence. The area of occupancy (AOO) was estimated to be 24 $km^{2,}$ (2,400 ha) therefore the project would impact 0.08 % of the AOO for the species The project would impact on 1.90 ha (30%) of the 6.20 ha of potential habitat for the species within the project footprint.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	*Euphrasia arguta* has been assumed present over a portion of the project footprint due to survey limitations. Only known population of the species occurs in the Nundle area of NSW. The species has a low likelihood of occurring within the project footprint.	*Euphrasia scabra* has been assumed present over a portion of the project footprint due to survey limitations. There are three known populations of the species in NSW: Bondi State Forest, South East Forests National Park and near Nunnock Swamp. The species has a low likelihood of occurring within the project footprint.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Euphrasia arguta*	*Euphrasia scabra* Rough Eyebright
	Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.6 Genoplesium superbum and Glycine latrobeana

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Genoplesium superbum* Superb Midge Orchid**	***Glycine latrobeana* Clover Glycine**
Impact summary	The project would result in direct impacts to a total of 8.80 ha of Superb Midge Orchid habitat (assumed presence), 95% of which is in moderate to high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species. • Changed fire regimes.	The project would result in direct impacts to a total of 0.25 ha of Clover Glycine habitat (assumed presence), all of which is in high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation. • Trampling of threatened flora species • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	The Superb Midge Orchid is restricted to the Central and Southern Tablelands of NSW where it has been recorded from two locations near Nerriga, about 20 km apart, and north of Wallerawang. Some plants occur in Morton National Park. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed	The only known population of *Glycine latrobeana* in NSW occurs within Kosciuszko National Park. Within this location the species is found in natural grassland dominated by *Poa* species with emergent *Hakea macrocarpa* at an altitude of 1300 m above sea level (DPE 2015a). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Design refinements to avoid impacts where practicable (B32) • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
	threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of	***Principle 1 SAII = No:*** Long term population data for this species in NSW is not available and generation length is unknown. Therefore, the decline in population of the species in NSW in the past 10 years or three generations has not been estimated. The species has been recorded from two locations near Nerriga, c. 20 km apart, the population fluctuates from year to year and is currently estimated to contain fewer than 150 individuals (NSWSC 2005).	***Principle 1 SAII = No:*** The decline in the population of the species in NSW in the last 10 years cannot be assessed because long term population data for this species in NSW is limited or not available. Carter and Sutter (2010) note the last confirmed record of *Glycine latrobeana* was from Delegate in south-eastern NSW from 1885 but has not been seen since. This suggests the species fragility. Key threats to the species (DPE 2022), which are likely to have contributed to its low population are:

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
introduced species, hybridisation, pathogens, pollutants, competitors or parasites	The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect. The decline in population of the species in NSW in the past 10 years or three generations based on the listed threats has not been estimated. The species is threatened by environmental and demographic stochasticity due to its small population size and limited distribution. The larger of the two populations is threatened by vehicular damage, habitat degradation and illegal collection associated with its proximity to roadsides. A proposed road realignment is likely to destroy some individuals and to increase the susceptibility of others (NSWSC 2005).	• Pest animals: Feral grazing animals and trampling (horses and pigs) • Demographic Threats: Restricted distribution only known in one location and poor recruitment • Weed invasion: Ox-eye Daisy competes, dominates, and excludes species
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = Yes:*** The most recent estimate total population size for this species from two known locations in NSW was fewer than 150 individuals (NSWSC 2005). There are no long-term survey data, therefore it is not possible to directly estimate the rate of population decline. Annual monitoring and targeted surveys of three priority management sites, one in Morton National Park and two within the within the Queanbeyan-Palerang Regional LGA the other in the Braidwood areas are ongoing (OEH 2021). The monitoring data has not been published to date. Therefore, the decline in population of the species in NSW in the past 10 years or three generations has not been estimated. The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect. The total number of mature individuals of this species is low (estimated at less than 150 individuals in 2005 (NSWSC 2005).	***Principle 2 SAII = No:*** According to the DPE (2015a), there is a single population of about 500-1000 plants in the Kelly Plains. The species is confirmed in Kosciuszko National Park as of a 2013 transect line survey. The decline in the population of the species in NSW in the last three years cannot be assessed because of insufficient population data for this species in NSW. However, there are no records to suggest a decline in population since its confirmation in Kosciuszko National Park in 2011. The number of mature individuals in NSW cannot be assessed because of insufficient population data for this species in NSW. BioNet record data contains eight records of the species (DPE 2022). Of these records, seven are from 2019 offering a poor indication of decline. BioNet record data does not contain enough records to confidently identify a decline in the population over the last three years. DPE (2015a) describes 'that seed remains viable and dormant in the soil for many years and germinates in response to disturbance such as fire or

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
	In NSW, no estimates are available on the number of mature individuals. The population is known to fluctuate from year to year (NSWSC 2005).	flood', indicating that this species may undergo extreme fluctuations.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No:*** *Area of Occupancy (ha) = 2,754.360 km²* (BCD data package) *Extent of Occurrence (ha) = 48 km²* (BCD data package) *No. Threat-defined locations = no data* The BCD data package provided the extent of occurrence for this species listed as 2,754.360 km². The species has a small population size (less than 150 individuals estimated in 2005) and limited distribution, restricted to the southern tablelands of NSW where it has been recorded from two locations near Nerriga, c. 20 km apart (NSWSC 2005). The BCD data package provided the area of occupancy for this species listed as 48 km².. The species is known from only two locations where it grows predominantly in wet heathland on shallow soils above a sandstone cap but has also been found in open woodland interspersed with heath (NSWSC 2005). One of the known locations is within Morton National Park (NSWSC 2005). The number of threat defined locations for this species is not provided, however the species is known from only two locations (BioNet, DPE 2022). There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations. However, the population is known to fluctuate from year to year (NSWSC 2005).	***Principle 3 SAII = Yes:*** *Extent of Occurrence (ha) = 69.688 km²* *Area of Occupancy (ha) = 40 km²* *No. Threat-defined locations = <= 3 locations* The size the area inhabited by the existing population of *G. latrobeana* is very highly restricted in geographic range (DPE 2015a). According to DPE (2015a), in 2013, the single known population in NSW is 3 ha in area. The extent of occurrence is estimated to be approximately 69.688 km² (BCD data package) The area of occupancy is estimated to be approximately 40 km². (BCD data package). No. Threat-defined locations = <= 3 locations. Vegetation associations at known sites are typically subalpine grassland and grassy woodland habitats at about 1300 m above sea level (DPE 2022). The current distribution of this species is known, further identification of threat-defined locations is unlikely to occur. However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. Extreme fluctuations in number = No information. There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing	***Principle 4 SAII = No:*** The reproductive traits of this species are not well known with limited information available. Orchid seeds are very small and can occasionally disperse widely (if on favourable winds) but	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	generally disperse locally within their population extent. The species flowers sporadically, triggered by significant summer rainfall and does not flower every year (Bionet, DPE 2022). Little is known about the pollinator of this species (OEH 2021). Lack of genetic diversity and long-term viability due to small population sizes and limited geographic distribution (OEH 2021) could limit the ability to increase the existing population. The species is not reliant on abiotic factors which cannot be restored for replaced within a Biodiversity stewardship site. BioNet (DPE 2022) states that the species has a moderate sensitivity to gain, however this is dependent on the effectiveness of management in controlling threats. This species' ecology and response to management is poorly known. There is no listed critical habitat for this species, though the three priority management sites as part of the Saving Our Species program are likely to be critical for the species survival. The life-history traits and ecology of this species is not well known. There are no specified KTPs for this species.	population. It is understood that seeds can stay viable and dormant in the soil (DPE 2015a). BioNet states that the species has a high sensitivity to gain as the species is able to colonise improved habitat, dependent on the effectiveness of management to control threats. There is no known critical habitat for this species (DPE 2022). The life-history traits and ecology of this species is known. Predation, habitat degradation, competition and disease transmission by Feral Pigs is listed as a key threatening process (KTP) under the species' final determination. These KTPs can be reasonably controlled within a biodiversity stewardship site, therefore this species is expected to be responsive to management.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Genoplesium superbum* was detected within the project footprint within the Bungonia IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. Given the species was not recorded and is only assumed present within potential habitat, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within potential habitat. The total area of this species habitat to be directly impacted by the project is 8.80 ha.	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. According to the DPE (2015), there is a single population of about 500-1000 plants in the Kelly Plains. The species is confirmed in Kosciuszko National Park as of a 2013 transect line survey. Suitable habitat for *G. latrobeana* was detected within the project footprint within the Snowy Mountains IBRA Subregion. Targeted flora surveys undertaken in areas of suitable habitat within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no BioNet records within 20 km of the project footprint (DPE 2022). As such, a percentage present in the subpopulation of the total population cannot be attained. Given the species was not recorded and is only assumed present in inaccessible areas, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. However, given that it was not recorded on the site during targeted surveys, there are no nearby records within 20 km of the site and there is only one known is very highly restricted population in the Kelly Plains in Kosciuszko National Park (DPE 2015a), it is unlikely that the project would substantially impact the local population for this species. The species unit of measure is area. The species was not recorded within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
		The total area of this species habitat to be directly impacted by the project is 0.25 ha. However, given that this species was not recorded on the site during targeted surveys, there are no nearby records within 20 km of the site and similar habitat in the surrounding landscape would be retained, it is unlikely that the project would impact the local population for this species.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or	The project footprint comprises 49.69 ha of suitable habitat, 8.80 ha (18%) of this would be impacted by the project. The extent of occurrence (EOO) was estimated to be 2,754.360 km^2 (275,436 ha). Therefore, the project may impact up to 0.003% of the species' extent of occurrence. The area of occupancy (AOO) was estimated to be 48 $km^{2,}$ (4,800 ha) therefore the project may impact up to 0.18 % of the AOO for the species. The project would impact on 8.80 ha (18%) of the 49.69 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	The project footprint comprises 6.72 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 0.25 ha (4%). The size of the area inhabited by the existing population of Clover Glycine is very highly restricted in geographic range (DPE 2015). According to DPE (2015a), in 2013, the single known population in NSW is 3 ha in area. The extent of occurrence (EOO) was estimated to be 69.688 km^2 (6,968.8 ha). Therefore, the project would impact 0.004% of the species' extent of occurrence. The area of occupancy (AOO) was estimated to be 40 $km^{2,}$ (4,000 ha) therefore the project would impact 0.006 % of the AOO for the species. The project would impact 0.25 ha of suitable habitat for this species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon for which adequate survey effort was not achieved, species presence has been assumed. As such, the number of individuals cannot be quantified. However, given that it was not recorded on the site, there are no nearby records within 20 km of the site and there is only one known population in the Kelly Plains in Kosciuszko National Park which is very highly restricted in geographic range (DPE 2015a), it is likely that the project would impact some potential habitat, but no individuals of the species is likely to be directly impacted.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Genoplesium superbum* Superb Midge Orchid	*Glycine latrobeana* Clover Glycine
dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.		Given that Clover Glycine was not recorded on the site and there are no nearby records within 20 km of the site, the species is not likely to be fragmented by the project. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present the project is not likely to reduce the habitat area required to support a population of the species. The project is not likely to increase any of the above listed threats to the species because there are no nearby records of this species within 20 km of the project footprint. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by threats such as likelihood of disturbance, pest animals (feral horse and pigs) and weeds (Ox-eye daisy).
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	Presence of *Genoplesium subperbum* has been assumed within suitable habitat. The species is only known from two locations near Nerriga and Morton National Park in NSW. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to further reducing the population size of the species that is currently observed, estimated, inferred or reasonably suspected to have a very small population size.	*Glycine latrobeana* has been assumed present over a portion of the project footprint due to survey limitations. The closest known population is within Kosciuszko National Park. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.7 Grevillea iaspicula and Grevillea wilkinsonii

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Grevillea iaspicula* Wee Jasper Grevillea**	***Grevillea wilkinsonii* Tumut Grevillea**
Impact summary	The project would result in direct impacts to a total of 3.85 ha of Wee Jasper Grevillea habitat (assumed presence), 52% of which is in moderate to very high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation • Trampling of threatened flora species • Changed fire regimes.	The project would result in direct impacts to a total of 34.70 ha of Tumut Grevillea habitat (assumed present), 45% of which is in moderate to high condition). Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation • Trampling of threatened flora species • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Grevilea iaspicula* is known from seven small populations; five around Wee Jasper and along the steep cliffs of the Goodradigbee River, and two on the shores of Lake Burrinjuck, near Burrinjuck village (Briggs & Leigh 1990 in DPE 2010a). The species grows only on skeletal grey-clay loam on rocky outcrops, sink-holes entrances and cliff bases in limestone country. It occurs in low woodland of Eucalyptus and Brachychiton, generally with an open understorey of shrubs and grasses (DPE 2010a). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty	*Grevillea wilkinsonii* has a highly restricted distribution in the NSW South-west Slopes region. Its main occurrence is along a 6 km stretch of the Goobarragandra River approximately 20 km east of Tumut where about 1,000 plants are known. The other occurrence is a small population that straddles the boundary of two private properties at Gundagai where only eight mature plants survive. The species generally grows in close proximity to the water, at altitudes between 310 and 340 m. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Grevillea iaspicula* Wee Jasper Grevillea	*Grevillea wilkinsonii* Tumut Grevillea
	levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index	***Principle 1 SAII = No*** Based on surveys conducted in 2003, the total number of mature individuals of this species in the wild was estimated to be at least 144, and is unlikely to exceed 250 (Briggs et al., 2010), as only part of one of the seven populations remains uncounted (Bray, 2008). According to the DPIE (2021c), the wild population of *Grevilea iaspicula* has increased. Most notable outcomes to date include significant population	***Principle 1 SAII = No*** There is insufficient data on decline in population to assess *Grevillea wilkinsonii* against this criteria. NSW TSSC (2019) describes that between 1988 to 2017 the species had declined from 298 to 97 plants (67% decline in 19 years). The largest declines were the result of flood events in

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Grevillea iaspicula* Wee Jasper Grevillea	*Grevillea wilkinsonii* Tumut Grevillea
of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	increases across all sites, from a total population of 120 plants in 2000 to now over 1250 plants (DPIE 2021c). The combination of several management actions has led to an overall population increase of *Grevilea iaspicula* plants in the last five years (DPIE 2021c). This has been achieved through installation of fencing to protect plants from stock and feral goat browsing, weed control, feral goat culling and enhancement plantings (DPIE 2021c).	2010 and 2012. Key threats (NPWS, 2001a) to the species, which are likely to have contributed to its low population are: • Overgrazing: Domestic stock • Weed Invasion: Mixed weeds causing loss/ and degradation of habitat and inhibit recruitment • Native species: Competition with native species • Habitat loss: Loss of key habitat, Vegetation clearing for agricultural purposes, Rural/residential/industrial development. • Land management practices: Uncertainty of future land management practices • Demographic threats: Small population size • Fire: Risk of adverse fire/wildfire • The project may increase some of the above listed threats to the species due to its proximity to Tumut and Gundagai which are within 20 km of the project footprint.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** According to DPIE (2021c), the wild population of this species has increased to now over 1250 plants. The species in not in decline in the wild as described in DPIE (2021c). According to the DPIE (2021c), the wild population of *Grevilea iaspicula* has increased in the previous 5 years. However, severe drought in 2017–18 resulted in an overall small net population decline in 2019–20 (DPIE 2021c). DPE (2010a) states that the total population of this species is deemed to include a very low number of mature individuals. The small range and population size of this species makes this species susceptible to environmental and demographic stochasticity (DPE 2010).	***Principle 2 SAII = No*** *Grevillea wilkinsonii* has a very highly restricted distribution in the NSW South-west Slopes region. Only two populations, its main occurrence is along a 6 km stretch of the Goobarragandra River approximately 20 km east of Tumut where about 1,000 plants are known. The other occurrence is a small population that straddles the boundary of two private properties at Gundagai where only eight mature plants survive (DPE 2022). DPE (2020) describes that between 1988 to 2017 the species had declined from 298 to 97 plants (67% decline in 19 years). BioNet record data contains 17 records of the species (DPE 2022). Of these records, none are within the last ten years, offering a poor indication of current decline. BioNet record data does not contain enough records to confidently identify a decline in the population over the last three years.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Grevillea iaspicula* Wee Jasper Grevillea**	***Grevillea wilkinsonii* Tumut Grevillea**
		Various surveys of *Grevillea wilkinsonii* have been undertaken at the Goobarragandra River population since 1998 (Taws 2011, Taws 2013, Taws 2018 cited in TSSC 2021). The total number of plants in the naturally occurring patches (not including translocated individuals) has declined from 644 (298 mature) to 514 (291 mature) in 2008, 399 (268 mature) in 2011, 210 (127 mature) in 2012, and 192 (97 mature) in 2017 (Taws 2018 cited in TSSC 2021). There are currently known to be eight mature *Grevillea wilkinsonii* plants in the Gundagai population (J. Briggs in litt. Aug 2016 cited in TSSC 2021).
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = Yes:*** *Extent of Occurrence (ha) = 66.156 km²* *Area of Occupancy (ha) = 40 km²* *No. Threat-defined locations = <= 3 locations* The extent of occurrence for *Grevilea iaspicula* is 66.156 km² (BCD data package). This species grows only on skeletal grey-clay loam on rocky outcrops, sink-holes entrances and cliff bases in limestone country. It occurs in low woodland of Eucalyptus and Brachychiton, generally with an open understorey of shrubs and grasses (DPE 2010a). *Grevilea iaspicula* is recorded in seven small populations; five around Wee Jasper and along the steep cliffs of the Goodradigbee River, and two on the shores of Lake Burrinjuck, near Burrinjuck village (Briggs & Leigh 1990 in DPE 2010a). *Grevilea iaspicula's* area of occupancy is approximately 40 km² (BCD data package). No threat defined locations are known for this species. The distribution of this species overlaps with the Natural Temperate Grassland of the Southern Tablelands of NSW and the ACT EPBC Act-listed TEC. Insufficient data to determine whether the species' population is likely to undergo extreme fluctuations. However, the small	***Principle 3 SAII = Yes*** *Area of Occupancy (ha) = 16 km²* *Extent of Occurrence (ha) = 35.759 km²* *No. Threat-defined locations = <= 3 locations* The extent of occurrence (EOO) was estimated to be 35.759 km² (BCD data package) Area of occupancy (AOO) was estimated to be 16 km² (BCD data package, NSW TSSC 2019) *Grevillea wilkinsonii* has a very highly restricted geographic distribution (TSSC 2021). This species is largely restricted to along the Goobarragandra River east of Tumut (Makinson 1993; Taws 2013; OEH 2018 cited in NSW TSSC 2019). Another small natural population occurs near Gundagai (J. Briggs in litt. March 2018 cited in NSW TSSC 2019). Most threats (see threat section above) impact on the plants and their habitat along the Goobarragandra River where the population occurs. Much of the private land, where 80% of the population occurs, is often used for stock grazing (NSW NPWS 2001; DOE n.d. cited in NSW TSSC 2019). The Gundagai population is located on a hillside close to the town centre on two private properties. Five plants occur in a small remnant (0.5 ha) of *Eucalyptus albens (*White Box) Grassy Woodland, and three plants are located in a private backyard (OEH n.d.; J. Briggs in litt. August

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Grevillea iaspicula* Wee Jasper Grevillea	*Grevillea wilkinsonii* Tumut Grevillea
	range and population size of this species makes this species susceptible to environmental and demographic stochasticity (DPE 2010a).	2016 cited in NSW TSSC 2019). The long-term viability of the Gundagai population is reliant on ongoing active management (TSSC 2021). The distance between the two known populations is approximately 40 km. There is no possibility of natural seed dispersal between them (TSSC 2021). Data deficient – there is currently no documented evidence of extreme fluctuations in the species (NSW TSSC 2019). However, the decline of 67% seen in plant numbers in the naturally occurring sites (Taws 2018) indicates the natural population is declining rather than experiencing a fluctuation (NSW TSSC 2019).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. Although, the species sets abundant seed and seedlings emerge episodically (Briggs et al. 2010). Levels of seedling recruitment are low and there is limited gene flow among populations, although genetic diversity within and between populations is high (Briggs et al. 2010). The populations are dependent on a persistent seed bank in the soil that regenerates after a fire (DPE 2010a). This species has a moderate sensitivity to gain (DPE 2022). This species population has an improving trend in the wild and has responded well to management actions undertaken so far (DPIE 2021). This species habitat constraint is rocky areas (Limestone rock substrate) (DPE 2022). The species requirement for certain habitat may be difficult to be replicated at biodiversity stewardship sites. Seedling recruitment for this species is episodic and dependent on favourable seasonal conditions, however in favourable conditions when stock grazing is excluded, seedling establishment can be quite abundant (DPE 2022). Threats to this species include:	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population, however, it is believed to be insect pollinated (NPWS 2001a). BioNet states that the species has a high sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). There is no known critical habitat for this species. The life-history traits and ecology of *Grevillea wilkinsonii* is known. 'Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants' and 'Invasion of native plant communities by exotic perennial grasses' are listed as a KTP under the final determination (TSSC 2021). The main threats to this species as described above can reasonably be controlled within a biodiversity stewardship site.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Grevillea iaspicula* Wee Jasper Grevillea**	***Grevillea wilkinsonii* Tumut Grevillea**
	• Weed invasion: *Rubus spp.* poses the greatest threat but some sites are heavily infested with Sweet Briar, St. John's Wort and other woody weeds including Cotoneaster and Photinia. • Grazing: C*apra hircus* (Feral Goat) and domestic stock grazing has degraded or caused loss of habitat (DPIE 2021). Overabundant native herbivores also pose a threat to some populations, most notably from browsing by wallabies (DPE 2022) • Demographic threats: small population size leaves this species vulnerable to disturbance through fire and drought. • Fire: Loss and degradation of habitat in the early 2000's due to bushfires. Most of the mature plans and seedlings were killed within the populations that were burnt (Morris 2000 as cited in DPIE 2021c). The time taken for seedlings to reach maturity and produce seed is likely to be at least several years (DPE 2022). Frequent fires may therefore interrupt the life cycle and result in population declines (Keith 1996). 'High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition' is listed as a KTP under the *Biodiversity Conservation Act 2016.* The majority of these threats can be reasonably controlled within a biodiversity stewardship site, therefore this species is expected to be responsive to management.	
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Grevillea iaspicula* Wee Jasper Grevillea	*Grevillea wilkinsonii* Tumut Grevillea
	A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for Wee Jasper Grevillea was detected within the project footprint in the Crookwell, Inland Slopes and Murrumbateman IBRA Subregions. Targeted flora surveys undertaken in areas of suitable habitat within the project footprint did not locate the species, as such a percentage present in the subpopulation of the total population cannot be attained. There are 24 nearby records of this species (1,080 estimated individuals), the closest record is 11 km outside the project footprint (DPE 2022). It is known present in Bondo and Murrumbateman IBRA Subregions. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within potential habitat. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is count. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within potential habitat. There are	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Suitable habitat for *Grevillea wilkinsonii* occurs within the project footprint within PCTs 266, 278 and 301 in the Inland Slopes IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are 17 records near the project, and the closest is 14 km from the project footprint (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species suitable habitat that would be directly impacted by the project is 34.70 ha.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Grevillea iaspicula* Wee Jasper Grevillea	*Grevillea wilkinsonii* Tumut Grevillea
	no BioNet records within the project footprint. The project would result in the direct impact to 3.85 ha of potential habitat for this species within the project footprint.	
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors	The project footprint contains 64.53 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 3.85 ha (6%). The extent of occurrence (EOO) was estimated to be 66.156 km^2 (6,615.6 ha) (BCD data package). Therefore, the project would impact less than 0.06% of this species' extent of occurrence. The area of occupancy (AOO) was estimated to be 40 $km^{2,}$ (4,000 ha) therefore the project would impact 0.1 % of the AOO for the species. The project would impact on 3.85 ha (6%) of the 64.53 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint.	The project would impact on 34.70 ha (11%) of the 304.72 ha of suitable habitat for the species within the project footprint. The extent of occurrence (EOO) was estimated to be 35.759 km^2 (3,575.9 ha) BCD data package). Therefore, the project may impact up to 1% of this species' extent of occurrence. The area of occupancy (AOO) was estimated to be 16 km^2 (1,600 ha) BCD data package). Therefore, the project may impact up to 2.2% of this species' extent of occurrence. The project would impact on 34.70 ha (11%) of the 304.72 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Grevillea iaspicula* Wee Jasper Grevillea	*Grevillea wilkinsonii* Tumut Grevillea
have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.		
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	*Grevillea iaspicula* has been assumed present over a portion of the project footprint due to survey limitations. The species is only known to occur on the shores of Lake Burrinjuck. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	*Grevillea wilkinsonii* has been assumed present over a portion of the project footprint due to survey limitations. The species is only known from two locations in NSW: Goobarragandra River and overlapping two properties at Gundagai. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.8 Irenepharsus magicus and Pomaderris delicata

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Irenepharsus magicus* Elusive Cress**	***Pomaderris delicata* Delicate Pomaderris**
Impact summary	The project would result in direct impacts to a total of 26.50 ha of Elusive Cress habitat (assumed presence), all of which is in high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation • Trampling of threatened flora species • Changed fire regimes.	The project would result in direct impacts to a total of 8.00 ha of Delicate Pomaderris habitat (assumed present), all of which is in moderate to high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation • Trampling of threatened flora species • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	*Irenepharsus magicus* occurs as a single population within Kosciuszko National Park. Vegetation associations at known sites are typically 900 m above sea level, growing on mineral soil in open, recently disturbed embankments (NPWS 2001). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed	*Pomaderris delicata* is known from only two sites; between Goulburn and Bungonia and south of Windellama (Cullula). Both known subpopulations of the species grow in dry sclerophyll forest dominated by *Eucalyptus sieberi* with a dense shrubby understorey on shallow, rocky soil, derived from Silurian and Ordovician sediments (Walsh & Coates 1997 cited in TSSC 2018). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey).

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Irenepharsus magicus* Elusive Cress	*Pomaderris delicata* Delicate Pomaderris
	threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	• Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of	***Principle 1 SAII = No*** According to the NSW Scientific Committee, there is a single population Kosciuszko National Park. The decline in the population of the species in NSW in the last 10 years cannot be assessed at this time because the species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect. This species is noted 'growing on mineral soil of embankment' and open, recently disturbed areas (NPWS 2001; BioNet 2022).	***Principle 1 SAII = No*** Generation length is uncertain, however, it is estimated to be 8-26 years (NSWSC 2009 cited in TSSC 2018). There has been an observed decline between 2002 (>215 plants) and 2016 (~86 plants) (TSSC 2018). This above decline is not considered to be simply the result of plant senescence (eg following fire or other disturbance) as a number of cooccurring species have been impacted and showed signs of dieback and decline. However, it is unknown

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Irenepharsus magicus* Elusive Cress	*Pomaderris delicata* Delicate Pomaderris
introduced species, hybridisation, pathogens, pollutants, competitors or parasites	Key Threats (NPWS 2001; BioNet 2022) to the species, which are likely to have contributed to its low population are: • Lack of knowledge: Insufficient understanding of distribution and/or abundance • Habitat loss: the removal of disturbance activities such as logging and grazing in Kosciuszko National Park has limited opportunities for the species to establish • Demographic Threats: Restricted distribution only known in one location, not often sampled as it may be dismissed as a weed. • The project is not likely to increase any of the above listed threats to the species.	whether this decline is a result of local environmental or site conditions, a pathogen or some other factor (TSSC 2018).
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = Yes*** According to the NSW Scientific Committee, there is a single population in the upper Geehi Valley, Kosciuszko National Park (NPWS). There are no records to suggest a decline in distribution since there few collections of this species and little habitat information, due to the plant flowering in autumn and looking like a weed. The species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address these aspects. BioNet record data contains 1 record of the species dated in 1954 offering a poor indication of decline. BioNet record data does not contain enough records to confidently identify a decline in the population over the last three years. There is little evidence to suggest whether the species is likely to undergo extreme fluctuation. The *I. magicus* is described as likely being an opportunistic, disturbance-loving species (NPWS 2001).	**Principle 2 SAII = No** The most recent estimate of the species' population size in 2016 was approximately 86 plants (TSSC 2018). Assuming a constant rate of decline for the most conservative estimate of generation length of 8 years, decline is estimated to be >32% in one generation (TSSC 2018). The most recent estimate of the species' population size in 2016 was 67 and 19 mature individuals in each subpopulation respectively (TSSC 2018). It is unknown (but possible) whether the species is likely to undergo extreme fluctuations (TSSC 2018). However, the observed decline between 2002 (>215 plants) and 2016 (approximately 86 plants) suggests that the species has undergone extreme fluctuations in the past (TSSC 2018).
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by:	***Principle 3 SAII = Yes*** *Area of Occupancy (ha) = 4 km^2* *Extent of Occurrence (ha) = < 10 km^2*	***Principle 3 SAII = Yes:*** *Extent of Occurrence (ha) = < 100 km^2* *Area of Occupancy (ha) = < 10 km^2*

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Irenepharsus magicus* Elusive Cress	*Pomaderris delicata* Delicate Pomaderris
▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	*Threat-defined locations = <= 3 locations* The size and area inhabited by the existing population of *I. magicus* is limited in geographic range. There are no nearby records of *I. magicus* within 10 km of the project footprint. BCD data package states the extent of occurrence for this species is 4 km^2. BioNet states the area of occupancy is less than 10 km^2. Vegetation associations at known sites are typically Kosciuszko National Park at approximately 3,000 ft above sea level, growing on mineral soil in open, recently disturbed embankments (NPWS 2001). The current distribution of this species is partially known, further identification of threat-defined locations is likely to occur. However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations.	*No. Threat-defined locations = <= 3 locations* Extent of Occurrence: The Extent of Occurrence of this species is < 12 km^2 (NSWSC 2019). Area of Occupancy: The Area of Occupancy for this species is < 8 km^2 (NSWSC 2019). Number of threat-defined locations: This species is known from two populations south-west of Goulburn that are separated by approximately 30 km (McDougall, K pers. comm. 2009 cited in NSWSC 2002, NSWSC 2010a). Both populations occur in road reserves and adjoin private property and each population is bisected by a road (NSWSC 2002, NSWSC 2010a). Extreme fluctuations: Low population numbers and the restricted distribution of this species make it susceptible to demographic and environmental stochasticity (NSWSC 2019). The greatest immediate threat to these population is from activities such as roadwork, slashing and fire prevention works that may be carried out in road reserves (NSWSC 2010a).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population. BioNet states that the species has a high sensitivity to gain, however ecology and response to management is poorly known. There is no known critical habitat for this species. The life-history traits and ecology of *I. magicus* is not known well. There are no specified KFTs for this species.	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to occupy new habitat on a biodiversity stewardship site. The species has a high sensitivity to gain (DPE 2022). Based on the species' known habitat preferences it does not appear to be reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site. The life- history and ecology relevant to persistence of this species (eg germination requirements, flowering and successful seed production, development of soil seed banks and juvenile plant growth and survival) are not well known (TSSC 2018). Sensitivity to KTP that cannot be controlled (eg

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Irenepharsus magicus* Elusive Cress	*Pomaderris delicata* Delicate Pomaderris
negligible (eg frogs severely impacted by chytrid fungus).		sensitivity of the species to the pathogen *Phytophthora cinnamomic*) is also not well known (TSSC 2018).
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be	Habitat for *I. magicus* was detected within the project footprint in the Snowy Mountains IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no nearby records (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species' unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Potential habitat for *Pomaderris delicata* was detected within the project footprint within the Bungonia IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within potential habitat. There are no records within 20 km of the project (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Irenepharsus magicus* Elusive Cress	*Pomaderris delicata* Delicate Pomaderris
impacted, along with the area of habitat to be impacted by the proposal	presence has been assumed within suitable habitat. The total area of this species suitable habitat that would be directly impacted by the project is 26.50 ha.	The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Certain areas of potential suitable habitat within the project footprint were inaccessible for surveys, therefore the species has been assumed present in these areas. The total area of this species habitat to be directly impacted by the project is 8.00 ha.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased	The project footprint contains 58.63 ha of suitable habitat, 26.50 ha (45%) would be impacted by the project. The area of occupancy (AOO) was estimated to be 4 km^2 (400 ha) (BCD data package). Therefore, the project would impact an estimated maximum of 6.6% of this species' AOO. The project would impact on 26.50 ha (45%) of the 58.63 ha of suitable habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	The project footprint contains 42.16 ha of potential habitat, 8.00 ha (19%) of this would be impacted by the project. The extent of occurrence (EOO) was estimated to be < 12 km^2 (NSWSC 2019). Therefore, the project may impact an estimated 1% of this species' EOO. The project would impact on 8.00 ha (19%) of the 42.16 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Irenepharsus magicus* Elusive Cress	*Pomaderris delicata* Delicate Pomaderris
competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.		
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	Elusive Cress has been assumed present over a portion of the project footprint due to survey limitations. Despite this, the species is considered to have a low likelihood of occurring within the project footprint. The only known records from Geehi Dam within Kosciuszko National Park. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to either further reducing the population size of the species that is currently observed, estimated, inferred or reasonably suspected to have a very small population size, or due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.	Pomaderris delicata has been assumed present over a portion of the project footprint due to survey limitations. The species is known from only two sites: between Goulburn and Bungonia and south of Windellama. The species has a low likelihood of occurring within the project footprint. Therefore, the project is unlikely to be deemed a significant risk to the species becoming extinct due to an impact on the habitat of the species that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.

3.1.9 Pomaderris pallida and Zieria obcordata

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Pomaderris pallida* Pale Pomaderris**	***Zieria obcordata* Granite Zieria**
Impact summary	The project would result in direct impacts to a total of 0.77 ha of Pale Pomaderris habitat (assumed presence), all of which is in moderate to very high condition. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation • Trampling of threatened flora species • Changed fire regimes.	The project would result in direct impacts to a total of 43.40 ha of Granite Zieria habitat. Potential indirect impacts to the species include: • Transport of weeds and pathogens from the site to adjacent vegetation • Trampling of threatened flora species • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	In NSW, *Pomaderris pallida* has been recorded from near Kydra Trig (north-west of Nimmitabel), Tinderry Nature Reserve, the Queanbeyan River (near Queanbeyan), the Shoalhaven River (between Bungonia and Warri), the Murrumbidgee River west of the ACT and the Byadbo area in Kosciuszko National Park (DPE 2022). The species is found in dry open forests and shrub communities associated with *Eucalyptus mannifera–E. macrorhynca– Callitris* woodland on granite slopes, river slopes and hillsides (TSSC 2008). The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty levels regarding	*Zieria obcordata* occurs at two sites with a geographic range of 105 km. These are in the Wuuluman area near Wellington and Crackerjack Rock/Rock Forests area north-west of Bathurst. The species grows in Eucalypt woodland or shrubland dominated by species of Acacia on rocky hillsides. Also occurs in Eucalyptus and Callitris dominated woodland with an open, low shrub understorey, on moderately steep, mainly west to north-facing slopes in sandy loam amongst granite boulders. The altitude range of sites is 500 to 830 m. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened flora include: • Avoiding and minimising impacts through route refinement and prioritising works within existing degraded (i.e. low vegetation integrity (VI)) remnants (EMM B1). • Further avoidance and minimisation of impacts to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying the extent of habitats, their existing condition and certainty

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
	species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).	levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed threatened flora habitats as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, construction management and post-construction rehabilitation of temporarily disturbed areas within the project footprint (EMM B18). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with pathogens, pests and weeds (EMM B19).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or	***Principle 1 SAII = No*** There is insufficient data to assess the decline in the population of the species in NSW in the last 10 years. Long term population data is not available for this species in NSW. Therefore, population estimates cannot be accurately determined. However, key threats to the species, which are likely to have contributed to its low population are habitat loss due to rural	***Principle 1 SAII = No*** There is insufficient data to show a meaningful trend yet. However, *Zieria obcordata* is thought to be declining in numbers mainly due to grazing by domestic stock and wallabies (DPIE 2020). Other threats to the species include (DPIE 2020):

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	residential development, weed competition (mainly from *Rubus spp.*), browsing by feral goats (*Capra hircus*), inappropriate fire regimes, increasing fragmentation and loss of remnants (TSSC 2008).	• Weed invasion (numerous exotic forbs, grasses and tree of heaven) • Habitat degradation (destruction of native understorey and microhabitats such as crevices between boulders and fallen branches) • Sites vulnerable to changes in stocking practices (such as the introduction of goats) • Limited observation of seedlings and juveniles. Browsing may be destroying the flowers and limiting subsequent seed pod growth • total population size and extent of occupancy of the species not being accurately known until the majority of suitable habitat between known populations has been adequately surveyed • Loss of mature plants and no regeneration due to repeated and lengthy dry periods combined with temperature extremes over summer months.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** The Namadgi National Park, Bullen Range Nature Reserve and Stony Creek Nature Reserve have populations of <1000 individuals each (TSSC 2018). This species has 6 known populations in southern NSW, although population data is not available for these sites (DPE 2022). There was a report of a large population in a nature park in Canberra, leading to the suggestion that the species may not be as rare as once thought (Walker 1997 as cited in TSSC 2008). There is insufficient data to assess the decline in distribution of this species since there few collections and little habitat information, due to the plant flowering in autumn and looking like a weed. Research priority for this species would address these issues with aims to monitor and assess population size, distribution, ecological requirement and the relative impacts of threatening processes (TSSC 2008). In NSW, no estimates are available on the number of mature individuals. There is little data on mature individual numbers, with	***Principle 2 SAII = Yes*** Only two populations, totalling around 900 individuals occur in central west NSW: these are in the Wuuluman area near Wellington, comprising of a single subpopulation over 3 sites and Crackerjack Rock/Rock Forests area north-west of Bathurst (DPE 2022). *Zieria obcordata* is a naturally rare species, characterised by extremely low population numbers across a highly restricted geographic range and it is unknown whether the species is currently declining (DEC 2007). Occurs at two sites with a geographic range of 105 km. These are in the Wuuluman area near Wellington, with of a single subpopulation over 3 sites comprising up to 200 plants and Crackerjack Rock/Rock Forests area north-west of Bathurst, with a subpopulation comprising of 14 sites, totalling to approximately 700 adults plants after good seasons (DPE 2022).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
	only three sites, these being Namadgi National Park, Bullen Range Nature Reserve and Stony Creek Nature Reserve, having population estimates assigned to them, which have populations of <1000 individuals each (TSSC 2008). The number of mature individuals is not known.	
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)I BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No*** *Extent of Occurrence (ha) = < 100 km^2* *Area of Occupancy (ha) = < 10 km^2* *No. Threat-defined locations = <= 3 locations* No. Threat-defined locations: insufficient data. The current distribution of this species is reasonably well known, further identification of threat-defined locations is likely to occur as it is a research priority (TSSC 2008). However, any potentially suitable habitat ought to be considered a threat defined location within proximity to the known population. The main potential threat this species includes extinction through stochastic processes (DECC NSW 2005 as cited in TSSC 2008). There is insufficient data to determine whether the species population size would be likely to undergo extreme natural fluctuations.	***Principle 3 SAII = No*** Extent of Occurrence: Insufficient data to determine Area of Occupancy: Insufficient data to determine. Total population size and extent of occupancy of the species is not accurately known until majority of suitable habitat between known populations has been adequately surveyed (DPE 2022). Number of threat-defined locations: There is insufficient data to determine the number of threat-defined locations for this species. The species is currently known from only two populations in central west NSW. This species could be threatened by environmental and demographic stochasticity due to its very highly restricted distribution and small population size, with the possibility of a single event causing the extinction of the species (DEC 2007). Extreme fluctuations: The two currently known populations appear to fluctuate in numbers over time, although whether this is due to climatic responses, survey variation or some other factor is currently not known (DEC 2007).
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg	***Principle 4 SAII = No*** The species has no known reproductive characteristics that could severely limit the ability to increase the existing population (DPE 2022). There is no known critical habitat for this species. BioNet states that the species has a very high sensitivity to gain (DPE 2022). The species does not appear to be reliant on abiotic habitats which cannot be restored or replaced on a biodiversity stewardship site.	***Principle 4 SAII = Yes*** Very little is known about the ecology and reproductive biology of the species except that the species possesses functional pollen and is genetically self-incompatible, thus requiring pollen from other individuals to set seed. Both populations at present, however, are geographically separated to the extent that it is unlikely that cross-pollination occurs between the two populations. Further research is required in these areas to better understand the species and its ecological requirements (DEC 2007).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	The life-history traits and ecology of this species is not known well. There are no specified KTPs for this species. A research priority into reproductive ecology to determine the requirements for successful establishment (TSSC 2008).	BioNet states that the species has a high sensitivity to gain dependent on the effectiveness of management to control threats (DPE 2022). This species habitat constraint is land containing granite boulders or rocky outcrops with 100 m (DPE 2022). The species requirement for certain habitat may be difficult to be replicated at biodiversity stewardship sites. The ecology of the species is poorly understood, particularly with regard to the effects of threats on the species (DEC 2007). This species requires the application of ecological fire management (DPE 2022). The main threats to this species as described above can reasonably be controlled within a biodiversity stewardship site.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site	It is not possible to determine how many individuals comprise the sub-population on the site from the available data. Potential habitat for *Pomaderris pallida* was detected within the project footprint within the Murrumbateman IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species.	Suitable habitat for *Zieria obcordata* was detected within the project footprint within PCTs 268, 280 and 287 in the Inland Slopes IBRA Subregion. Targeted flora surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	Where survey effort was not adequate, species presence has been assumed within potential habitat. There are no records within 20 km of the project (DPE 2022). Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) to be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Certain areas of potential suitable habitat within the project footprint were inaccessible for surveys, therefore the species has been assumed present in these areas. The total area of this species habitat to be directly impacted by the project is 0.77 ha	within suitable habitat. There are no records within 20 km of the project (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species habitat that would be impacted by the project is 43.40 ha.
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or	The project footprint contains 42.10 ha of suitable habitat in the form of a species habitat polygon, of this the project would impact on 0.77 ha (2%). However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact on 0.77 ha (2%) of the 42.10 ha of suitable habitat for the species within the project footprint. However, no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken and the species was not detected. In areas that comprise the species polygon that were not adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, if the species is present, the project would not create a barrier to dispersal of the species.	The project footprint comprises 594.30 ha of potential habitat for the species, 43.40 ha (7%) of which would be impacted by the project. However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact on 43.40 ha (7%) of the 594.30 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in inaccessible suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, disturbance from vegetation removal and maintenance within the clearing footprint.	unaffected. Therefore, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable.
Likely SAII assessment outcome against relevant principles.	*Pomaderris pallida* has been assumed present over a portion of the project footprint due to survey limitations. There are no known records of the species within 20 km of the project footprint. The species is considered to have a low likelihood of occurring within the project footprint. The project is considered unlikely to lead to further decline or extinction of the species given it is not considered likely to be present within the project footprint.	*Zieria obcordata* is only known from two sites in NSW: one in the Wuuluman area near Wellington and the other at Crackerjack Rock/ Rock Forests area north-west of Bathurst. The species was not record during the field survey and has a low likelihood of occurring within the project footprint. The species has been assumed present over a portion of the project footprint due to survey limitations. The project would result in direct impacts to a total of 43.40 ha of potential habitat for Granite Zieria. About 34.40 ha (79%) of this habitat would be permanently cleared (i.e. TCZ).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Pomaderris pallida* Pale Pomaderris	*Zieria obcordata* Granite Zieria
		The project is considered unlikely to lead to further decline or extinction of the species given it is not considered likely to be present within the project footprint.

Official

3.3 Threatened fauna

3.3.1 Large Bent-winged Bat and Stuttering Frog

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Miniopterus orianae oceanensis* Large Bent-winged Bat**	**Stuttering Frog (*Mixophyes balbus)***
Impact summary	The project would result in direct impacts to a total of 0.12 ha of potential Large Bent-winged Bat habitat which constitutes SAII candidate habitat. Potential breeding habitat for the species has not been recorded however a single rocky gully situated in the Murrumbateman IBRA subregion has been identified as potential habitat. This potential breeding habitat would not be impacted by the project, however a small area (ie 0.12 ha) would be cleared within 100 m of the potential roost site. Potential indirect impacts to the species include: • Reduced viability of adjacent habitat due to noise, dust, or light spill • Increased risk of starvation or exposure, and loss of shade of shelter • Increase in pest animal populations and predation of native fauna • Changed fire regimes. Prescribed impacts to the species include: • Impacts to karst, caves, crevices, cliffs and gorges, including a total of 14.81 ha of potential karstic geologies within the project footprint • Fauna injury and/or mortality from transmission line collision, entanglement or electrocution.	The project would result in direct impacts to a total of 13.80 ha of Stuttering Frog habitat. Stuttering Frog was not recorded in the project footprint. Suitable wet sclerophyll forest habitat and permanent streams occur within the Bungonia IBRA subregion however the closest historic records are within the Blue Mountains (about 40km north). The species has been assumed present over a portion of the project footprint due to survey limitations. Where this species has been assumed present, nearby streams are predominantly limited to the headwaters of first order waterways (there are two third-order waterway crossings) and therefore are unlikely to comprise breeding habitat. Potential indirect impacts to the species include: • Reduced viability of adjacent habitat due to noise, dust, or light spill • Increased risk of starvation or exposure, and loss of shade or shelter • Increase in pest animal populations and predation of native fauna • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	The Large Bent-winged bat occurs in heavily wooded areas where it forages for invertebrates above the tree canopy (DPIE 2022). The Large Bent-winged Bat roosts primarily in caves but also utilises man-mad structures like buildings and tunnels (DPE 2022). Large Bent-winged Bat was recorded within PCTs 266, 277, 278, 283, 351, 352, 1150 and 1330 in the project footprint.	The Stuttering Frog is found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range. Outside the breeding season adults live in deep leaf litter and thick understorey vegetation on the forest floor. The species is assumed present within potential habitats within the project footprint but has not been directly recorded.

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened bats include: • Avoiding and minimising impacts by route refinement, over-spanning and rerouting access tracks to avoid impacts within 100m of any potential roost habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to confirm the presence of active roosts within or immediately adjacent (i.e. within 100m) to the project footprint (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying threatened bat habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Development of a Connectivity Strategy to ensure essential habitat linkages for the species are retained within the landscape (EMM B16). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitats within 100m of roost habitat as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18).	Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened frogs include: • Avoiding and minimising impacts by spanning over waterways and rerouting access tracks to avoid waterway habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to delineate the extent of habitats within inaccessible lands (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying threatened frog habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitat areas as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18). • Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	• Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).	• Implementation of biosecurity protocols during construction to manage any potential risks associated with Chytrid Fungus (EMM B19). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = No*** This is a data deficient species. There is insufficient data available in the literature to determine whether the species has undergone a decline in population in the past 10 years. The population of Large Bent-winged Bats is threatened by and may be declining due to: • Disturbance: caused by humans entering cave or nearby areas, or blocking of cave entrance for human health, or by encroaching weeds (DPIE 2022). This is particularly problematic during winter or breeding. • Habitat loss, fragmentation and degradation: the loss of high-quality foraging habitat, particularly moist, high productive forests, negatively effects foraging success (DPIE 2022; Threlfall et al. 2012). • Disease: the introduction of disease, particularly white nose-fungus (*Pseudogymnoascus destructans*) (DPIE 2022). • Fire: the presence of wildfires or hazard reduction fires during the breeding season (DPIE 2022).	***Principle 1 SAII = No*** DPE has not determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). There is no data available on the decline in population of the species in the past 10 years or three generations. However, the southern range of *M. balbu*s appears to have declined dramatically in recent times. Local extinctions of these population would represent a 50% reduction in the species range (DAWE 2021a). There is no data available on the decline in population of the species in the past 10 years or three generations as indicated by an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites. Key threats to the species (DPE 2022), which are likely to have contributed to its decline in NSW: • Habitat loss: Vegetation clearing for agricultural purposes: Modification and loss of habitat • Disease: Chytridiomycosis: chytrid fungus

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	• Predation: predation by foxes and feral cats (DPIE 2022). • Wind farms: there is a significant indirect, negative effect of wind turbine presence on the activity and habitat use of *Miniopterus* sp. (Millon et al. 2018).	• Disturbance: Hydrological disturbance: Changes to natural water flows and water quality; Forestry activity: Damage to habitat and impacts on water quality from forestry activities; Trampling by domestic or feral herbivores: Damage (vegetation removal, disturbance, turbidity) to habitat by domestic stock, feral cattle and pigs • Pest animal: Fish: Predation of eggs and tadpoles by introduced fish • Lack of knowledge: Insufficient understanding of species/community ecology: Poor knowledge of the species' distribution, taxonomy and history of local extinction.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and ▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	***Principle 2 SAII = No*** This is a data deficient species. There is no data available in the literature to estimate the species population size in NSW. There are five known maternity roosts in Australia (OEH 2020). Three occur in NSW alongside numerous over-wintering roost sites (Mills 2021). Roosting populations are known to range between 100 – 150,000 individuals (DPE 2022). A recent population estimation of the nearest known maternity roost in Church Cave, Wee Jasper was 40,000 individuals (including females and juveniles) (Mills 2021). This is a data deficient species and an estimation of the decline in species' population size in NSW cannot be determined. Over the last 60 years, estimations of population size at the Church Cave maternity roost have been sporadic and varied considerably. This is due to considerable time gaps between observations as well as differences in survey methodologies which likely resulted in overestimations (Mills 2021). Data on the age structure composition of the species population is not available. There is insufficient data available in the literature to determine the number of mature individuals in each subpopulation or whether the species is	***Principle 2 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). There is no data available to estimate the species current population size in NSW. There are no data available to evaluate the population trend over three years or one generation (DAWE 2021a). See section above. There is no data available to estimate the number of mature individuals in each sub population.

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	likely to undergo extreme fluctuations. Migration to maternity roosts is highly synchronised with parturition (Mills 2021), and the availability of suitable roosting sites may limit population growth. However, there is no information available in the literature on the reproductive biology of this species.	
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No*** The Large Bent-winged Bat is a highly mobile, migratory species found along the east and north-west coasts of Australia (OEH 2019; Mills 2021). When not breeding, populations disperse within about 300 km range of maternity caves (DPE 2022). Within NSW, it is known to occur in 83 subregions and 10 IBRA regions: Australian Alps, Brigalow Belt South, Nandewar, New England Tablelands, NSW North Coast, NSW South Western Slopes, Ocean, South East Corner, South Eastern Highlands, South Eastern Queensland and the Sydney Basin (OEH 2019). There is insufficient data available in the literature to determine whether the species population size would be likely to undergo extreme fluctuations. However, females show high fidelity to maternity roosts nearing parturition. The availability of suitable maternity roosts may therefore limit population growth in this species. The five known maternity roosts in Australia are considered threat-defined locations as *M. orianae oceanesis* exhibits high fidelity to these sites (Mills 2021), and maternity caves have very specific temperature and humidity regimes (OEH 2019).	***Principle 3 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). There is no data available on the calculated extent of occurrence (EOO). There is no data available on the calculated Area of occurrence (AOO). At present, no critical habitat has been identified or declared for the species, however all extant populations are considered critical for the long-term survival of this taxon (Hunter and Gillespie 2011). The populations from the southern lineage that are located south of the Hunter River generally appear to have been severely impacted by chytridiomycosis and any impact on them could be considered potentially serious and irreversible. The populations north of the Hunter River are more robust and impacts on them are currently unlikely to be considered potentially serious and irreversible (DPE 2022). The species is threatened by habitat fragmentation and degradation, which would isolate sub-populations and increases their vulnerability to local extinction (DAWE 2021a). There is no information/evidence of this species experiencing extreme fluctuations in population size or habitat.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg	***Principle 4 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). The species exhibits high fidelity to established maternity sites and requires specific temperature and humidity regimes to	***Principle 4 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). Principle 4 applies because' (1) known reproductive characteristics (clonality or sterility) severely limit the ability of

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	rear its young, indicating that the species has a limited capacity to establish in a new site. The species requires intact native vegetation within 300 metres of maternity roosts, limited pesticide use within breeding and foraging habitats, and is also vulnerable to human disturbance which may lead to abandonment of the roost (DPE 2022). Therefore, a biodiversity stewardship site would need to include an established maternity roosting site and adequate undisturbed bushland in proximity to the site to have any positive effect on the population of the species. The species displays high fidelity to established roosting sites and requires specific abiotic factors (temperature, humidity) nearing parturition and when raising young. The specific locations and internal environments of the maternity roosting sites cannot be restored or replaced on a biodiversity stewardship site, unless it contains a known maternity roosting site. The ability to control these requirements at a biodiversity stewardship site is negligible.	the species to increase the existing population or occupy new habitat; or (2) the species is reliant on abiotic habitats which cannot be restored or replaced; or (3) life history traits and/or ecology is known but the ability to control key threatening processes is currently negligible. At present, no critical habitat has been identified or declared. The ability to control key threats at a biodiversity stewardship site is thought to be possible. The species is to be Very Highly sensitive to gain (DPE 2022). The removal of feral animals through fencing and control programs is achievable. To mitigate the threat of Amphibian Chytrid Fungus, a strict hygiene protocol would be able to be enforced on a biodiversity stewardship site in alignment with DEE (2016).
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	It is not possible to determine how many individuals comprise the sub-population from the available data as this is a data deficient species. A total of 217 passes were acoustically recorded in all IBRA subregions traversed by the project footprint. It was recorded in non-native areas and several PCTs in poor, fair, moderate, good and high conditions. The age of these individuals could not be determined. No roosts were identified within the project footprint. The extent of roosting habitat was difficult to determine as a definitive end to the cavities could not always be seen. As such it cannot be established if a crevice/cave occupying the species is located within the project footprint. However, seasonal migration patterns and maternity roosts are well documented for this species and therefore, maternity roost was not recorded and is unlikely to be within the project footprint. According to BioNet, there are 131 nearby records (1061 estimated individuals), with the closest record 100 m from project footprint. All BioNet records along the alignment are within 20 km radius of the project footprint. It is known to occur within all IBRA Subregions the project is in (Bondo, Bungonia, Crookwell, Murrumbateman, Inland Slopes and Snowy Mountain subregions). The five known maternity roosts in Australia are considered threat-defined locations as this species exhibits high fidelity to these sites (Mills 2021), and maternity caves have very specific temperature and humidity regimes (OEH 2019). Two of these known maternity roosts are located within 40 km of the project footprint. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined.	Suitable habitat for Stuttering Frog was detected within the project footprint within PCTs 870, 1097, 1107 and 1150 in the Bungonia IBRA subregion. It is not possible to determine how many individuals comprise the sub-population from the available data. The total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be attained. The species was not recorded in the project footprint during targeted surveys and is assumed present. There are no nearby records of the Stuttering Frog (DPE 2022). The closest records are near Ruby Creek in Blue Mountains. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 13.8 ha of potential habitat for Stuttering Frog. The species unit of measure is area, with the species polygon mapped as per the requirements in the NSW Survey Guide for Threatened Frogs (DPIE 2020d) (Figure 13-3). Up to 13.8 ha of potential habitat would be directly impacted as a result of the project. The project has the potential to impact on water quality, water bodies and hydrological processes. A total of 1,139 streams are located within the project footprint (of various types and condition). There are several major waterbodies that intersect the project footprint. However, construction work would mostly be limited to above-ground transmission line construction installation, which would avoid direct impacts to waterways, especially major waterways, with appropriate water management measures to be implemented. Work within proximity of aquatic ecosystems would require stringent erosion and sediment controls to avoid increased

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	The species unit of measure is area. There are numerous PCTs on the project footprint to which the species is associated. All breeding habitat including the cave, or other features, used for breeding and the area immediately surrounding this feature must be mapped. Species polygon boundaries should have a 100 m radius buffer around an accurate GPS point location centred on the cave/feature entrance. The species polygon covers an area of 7.73 ha, all of which meets the definition of breeding constraints ie, within 100 m of the aforementioned features on the project footprint. The species polygon (breeding habitat only) for this species within the project footprint that would be impacted by the project is approximately 0.12 ha. Suitable habitat in the form of associated PCTs was identified present in the project footprint and therefore direct impacts could result in the loss of approximately 0.12 ha potential breeding habitat. The project has the potential to impact on caves, crevices, cliffs, rock habitats that are considered important to the lifecycle of this species. The project intersects 160 ha of potential of potentially karstic geologies that may be considered important as staging, migration and breeding habitat for Large Bent winged bat. Further, some of the limestone deposits across the project footprint are of the same formation group and epoch as karst environments in the broader region (eg, Bungonia Caves and Careys Cave). However, no deep exaction or drilling is required within in areas suspected of being karstic that intersect the project footprint. Therefore, the consequence of the potential impacts would be minor and non-significant as a result of the avoidance of deep excavations in areas underlain by Karstic landscapes. Furthermore, the project footprint is greater than 20 km from any known maternity sites for the species.	run-off and pollutant loads. Once operational, such impacts are considered to be negligible on an ongoing basis.

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	No cave environments were identified within the project footprint during field campaigns. However, there is important cave roosting habitat beyond the project footprint, including: • Black Andrew Mine (within 14 kilometres) • Dip Cave, Wee Jasper (within 28 kilometres) • Punchbowl Cave (within 27 kilometres, known roosting site and staging site for gravid females enroute to Church Cave maternity site) • Pylon 58 Cave (within 20 kilometres) • Church Cave (within 27 kilometres) (Maternity roost site) • Drum Cave (within 37 kilometres) (Maternity roost site). Roosting populations are known to range between 100 – 150,000 individuals (DPE 2022). A recent population estimation of the nearest known maternity roost in Church Cave, Wee Jasper was 40,000 individuals (including females and juveniles) (Mills 2021). When not breeding, populations disperse within about 300 km range of maternity caves (DPE 2022). Therefore, it is likely that the project footprint may support intermittent roosting sites and staging site for gravid females enroute to maternity colonies (eg, Church Cave). A total of 217 passes were acoustically recorded across the project footprint. Although the records were distributed across the site, assuming that each pass was a different individual, this number was small in comparison to the individuals in Church Cave roost, representing only approximately 0.5% of the population. Furthermore, suitable foraging and intermittent roosting site habitat impacted by the project would constitute approximately 0.5% of the species non-breeding dispersal range. The number of BioNet records in the area outside the project footprint indicate that the species is utilising habitat outside the project footprint for foraging.	

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	Areas of typical rocky hillslope and rock overhangs occur throughout the project footprint. These areas may support intermittent roosting sites for this species. However, impacts would be negligible; the rocky environment described would be minimally impacted, and these habitats would remain post-construction. Impacts to caves, crevices and rock as a result of the project are likely to be negligible. Therefore, the project is not likely to alter the species geographic range. Culverts, bridges, and dilapidated structures may be used by roosting bats such as the Large Bent-winged bat. Niche surveys (2022) identified the following Large Bent-winged Bats were acoustically recorded within proximity of human-made structures: • 2 kilometres from road bridge at Middle Creek in the Crookwell IBRA subregion. • 5 kilometres from unknown structure at Dowlings Creek in the Murrumbateman IBRA subregion. • Two Large Bent-winged bat records within 1 kilometres of unknown structure at Logbridge Creek in the Snowy Mountains IBRA subregion. No removal or upgrades of anthropogenic structures such as existing culverts or bridges is proposed at this stage, so such impacts are negligible.	
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect	The area of occupancy or extent of occupancy within NSW and percentages cannot be provided as there is insufficient data available for this species. However, it is known that when not breeding, populations are highly mobile and disperse within about 300 km range of maternity caves (DPE 2022). There are no known maternity roosts or cave roosting habitat on the site. The project would impact habitat used by the Large Bent winged bat for intermittent roosting sites and foraging habitat. However, the rocky environment in the project footprint that is potentially used as intermittent roosting sites	The project footprint comprises of 78.35 ha of potential habitat for the species, 13.8 ha (18%) of which would be impacted by the project. The extent of occurrence and area of occupancy for this species is unknown. Therefore, it is unknown how much of the species range would be impacted by the project. It is unlikely that the geographic range or area/extent of occupancy of this highly mobile species would be substantially impacted by the project. This species was not recorded in the project footprint and there were no records near the project footprint. It is likely

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	would be minimally impacted, and would remain post-construction. There are large areas of suitable habitat for this species surrounding the project footprint, as indicated by the 131 BioNet records all of which are outside the project footprint. Furthermore, this mobile species has a high dispersal range of 300 km from maternity caves (when not breeding), indicating that the habitat in the project footprint constitutes part of the broad ranging foraging habitat for this species. Therefore, whilst there would be an impact on 0.12 ha of suitable breeding habitat in the project footprint, it is considered to be of negligible consequence to the species on a regional scale. The impact on the sub-population(s) cannot be quantified, as it considered likely that individuals recorded on site also utilise suitable habitat outside the project footprint. Vegetation clearing impacts to this species habitat may result in the loss of individuals of the sub-population(s), however is unlikely to result in the loss of an entire sub-population. This species is highly mobile and is likely to be able to traverse the long, linear nature of the area to be cleared. It is therefore unlikely that a population of the species would be fragmented by the project. Therefore, the project is not likely to reduce the habitat area required to support a population of the species. The project would result in the development of highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected this species. Any affects are likely to reduce over time as biodiversity acclimatises to the presence of the transmission lines (and structures), further a connectivity strategy is to be developed after the design refinement stage to minimise the extent of connectivity impacts, which may include retaining of corridors adjacent to easement to facilitate fauna movement. The consequence of the impacts would be minor and non-significant.	that the project would affect up to 13.8 ha of suitable habitat. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in the development of highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. This species is likely to be able to traverse the long, linear nature of the area to be cleared. Any impacts on species connectivity are likely to reduce over time as biodiversity acclimatises to the presence of the transmission lines (and structures), further a connectivity strategy is to be developed after the design refinement stage to minimise the extent of connectivity impacts, which may include retaining of corridors adjacent to easement to facilitate fauna movement. The consequence of the impacts would be minor and non-significant. It is therefore unlikely that a population of the species would be fragmented by the project. The impact on the sub-population(s) cannot be quantified, as the Stuttering Frog was not recorded on site and the species polygon has been calculated based on assumed presence in suitable habitat. The project would impact 13.8 ha of suitable habitat for this species. If the species is present, individuals in the project footprint may be affected by changes to water quality, habitat loss, disturbance from access tracks, chemical pollution, vegetation removal and maintenance within the clearing footprint. Stuttering Frog is also threatened by Amphibian Chytrid Fungus which causes the disease Chytridiomycosis. There is the potential for the introduction or spread of pathogens by means of imported materials, machinery movements and increased foot traffic during the construction phase. No evidence of pathogens such as Chytrid Fungus was recorded within the project footprint. However,

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Miniopterus orianae oceanensis* Large Bent-winged Bat	Stuttering Frog (*Mixophyes balbus)*
	The project is highly likely to increase the listed threats to the species due to records being found within and immediately adjacent to the project footprint. The project would modify fire regimes in surrounding vegetation as a result of management for asset protection and hydrology of drainage lines within the project footprint, however this species is not reliant on the drainage lines in the project footprint. Individuals in the project footprint may be affected by an increase in habitat loss (the loss of high-quality foraging habitat, particularly moist, high productive forests), as well as disturbance from vegetation removal and maintenance within the clearing footprint. A discussion of prescribed impacts to karst, caves, crevices, cliffs, rocks and other geological features of significance is provided in BDAR - Stage 2.	these have potential to occur. Given the likelihood of Chytrid Fungus occurring on the site is low, mitigation can be implemented via hygiene protocols.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable.	Not applicable
Likely SAII assessment outcome against relevant principles	Based on a low likelihood of modelled roost habitat being confirmed as important breeding habitat and no direct impacts to this habitat, it is considered an SAII outcome decision is low likelihood.	Based on a low likelihood of the species occurrence or direct impacts to breeding habitat and appropriate mitigation measures with regard to stream protection, it is considered an SAII outcome decision is very low likelihood.

3.3.2 Brush-tailed Rock-wallaby and Large-eared Pied Bat

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	***Petrogale penicillata* Brush-tailed Rock-wallaby**	***Chalinolobus dwyeri* Large-eared Pied Bat**
Impact summary	The project would result in direct impacts to a total of 1.1 ha of Brush-tailed Rock-wallaby habitat. The species was not recorded during field survey and habitat within accessible areas is considered sub-optimal. Potential indirect impacts to the species includes: • Reduced viability of adjacent habitat due to noise, dust, or light spill. • Increased risk of starvation, exposure, and loss of shade or shelter. • Changed fire regimes.	The project would result in direct impacts to a total of 7.7 ha of Large-eared Pied Bat habitat. Large-eared Pied Bat was not recorded in or adjacent to the project footprint despite survey. Potential breeding habitat (the SAII component for the species) has been assumed within 2 km of mapped potential karst and clifflines, due to survey limitations. Potential indirect impacts to the species include: • Reduced viability of adjacent habitat due to noise, dust, or light spill. • Increased risk of starvation or exposure, and loss of shade or shelter. • Increase in pest animal populations and predation of native fauna. • Changed fire regimes. Prescribed impacts to the species include: • Impacts to karst, caves, crevices, cliffs and gorges, including a total of 6.23 ha of steep cliffline habitat within the project footprint. • Impacts on connectivity and fauna movement. • Fauna injury and/or mortality from transmission line collision, entanglement, or electrocution.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	Brush-tailed Rock-wallaby occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges, often facing north. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to Brush-tailed Rock-wallaby include:	Large-eared Pied Bats roost in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (*Petrochelidon ariel*), frequenting low to mid-elevation dry open forest and woodland close to these features. Females have been recorded raising young in maternity roosts from November through to January in roof domes in sandstone caves and overhangs. No maternity caves were identified during targeted surveys, however not all lands were accessed during surveys. There is

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
	• Avoiding and minimising impacts by route refinement, over-spanning and rerouting access tracks to avoid potential rocky habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to further delineate the extent of habitats within the project footprint (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying Brush-tailed Rock-wallaby habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Development of a Connectivity Strategy to ensure essential habitat linkages for the species are retained within the landscape (EMM B16). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitat areas as no-go zones during the construction phase (EMM B23. • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18). • Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to	one record of the species having been trapped in Bungonia National Park, which is 52 km from the project footprint. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened bats include: • Avoiding and minimising impacts by route refinement, over-spanning and rerouting access tracks to avoid impacts within 100m of any potential roost habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to confirm the presence of active roosts within or immediately adjacent (i.e. within 100m) to the project footprint (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying threatened bat habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Development of a Connectivity Strategy to ensure essential habitat linkages for the species are retained within the landscape (EMM B16). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitats within 100m of roost habitat as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
	minimise light spill as much as practicable (EMM B31).	rehabilitation of temporarily disturbed habitats where relevant (EMM B18). • Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:		
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = No*** DPE has not determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). There are no data available to evaluate the population trend over ten years or three-generation period. According to TSSC (2021b) The Brush-tailed Rock-wallaby has declined significantly in the west and south of its former range, and populations have become more fragmented throughout. Most populations are now small and isolated. There is no data available on the decline in population of the species in the past 10 years or three generations as indicated by an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites. Key threats to the species (DPE 2022), which are likely to have contributed to its decline in NSW: • Pest animals: Foxes: Predation by foxes and wild dogs; Feral goats: Competition for forage and refuge areas with feral goats; Feral cats: predation by feral cats; Feral pigs: Habitat degradation caused by feral pigs • Habitat loss: Loss of key habitat: Loss, degradation and fragmentation of habitat	***Principle 1 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 1 – rapid decline (DPE 2022). The decline in population of the species in NSW in the last 10 years cannot be assessed at this time because: • The species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address this aspect (DPE 2022). • BioNet record data exhibits a bias toward increased survey effort, resulting in an increase of species records within the last 10 years (DPE 2022). • The species breeding habitat constitutes habitat within 100m of rocky areas containing caves, or overhangs or crevices, cliffs or escarpments, or old mines, tunnels, culverts, derelict concrete buildings (DPE 2022). Key threats to the species, which are likely to have contributed to its decline are: • Habitat loss, including clearing and isolation of forest and woodland habitats near cliffs, caves and old mine workings for agriculture or development, and damage to roosting and maternity sites from mining operations, and recreational caving activities. • Fire and inappropriate fire regimes: Loss of foraging habitat close to cliffs, caves and old mine workings

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
	• Demographic threats: small population size: The small and isolated nature of some populations may lead to demographic effects (eg, inbreeding depression) • Fire: Fire destroying key habitat: Fire regimes that reduce the abundance and diversity of ground forage • Native species: Competition with native species: Competition for food and shelter from wallaroos and other native macropods • Weeds: Infestation by invasive weeds causing loss and degradation of foraging habitat • Lack of knowledge: Insufficient understanding of distribution and/or abundance: Poor understanding of the distribution, abundance and population structure at some locations; Insufficient understanding of species/community ecology: Limited understanding of the species' ecology, threat dynamics and response to management • Direct take/mortality: Road mortality and injury • Disturbance: Road/track works: Creation of tracks within colony leading to greater predator incursions.	from forestry activities and too-frequent burning, usually associated with grazing. • Disturbance: Use of pesticides. • Pest animals: Disturbance to roosting areas by goats • Lack of knowledge: Insufficient understanding of habitat requirements (DPE 2022). According to BioNet, there are several records of this species within 10 km of the project footprint (DPE 2022). Note that lack of knowledge about this species is a significant issue. Currently there are only four known maternity caves for this species and two of these are no longer active (DAWE n.d.). Breeding cave dwelling species such as this species tend to display fidelity to their breeding sites and maternity caves and may breed in large numbers, however this species breeding behaviours are not well studied and only two active maternity caves are known from Coonabarabran and the Pilliga, and evidence of a maternity cave has been found near Ulan (ie, capture of lactating females and females with young) (Pennay 2008). Requirements of maternity roosts are highly specific, and given the scarcity of this habitat feature, the loss of a maternity cave would constitute a significant reduction in an important area of occupancy of a population. Further, DERM (2011) state that any maternity roosts must be considered habitat critical to the survival of the species. Any impacts on breeding habitat used by this species could be considered potentially serious and irreversible (DPE 2022).
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and	**Principle 2 SAII = No** DPE have not determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). There is no data available to estimate the species current population size in NSW.	***Principle 2 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 2 – small population size (DPE 2022). Responses to i and ii cannot be provided because:

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	There are no data available to evaluate the population trend over three years or one generation (TSSC 2021b). See section a) i) There is no data available to estimate the number of mature individuals in each sub population.	• The species information available in BioNet and other reliable/peer reviewed information about the species is limited and does not address these aspects • BioNet record data does not contain enough records to confidently identify a decline in the population over the last three years • BioNet record data contains 2,022 records of the species, however this is in no way an indication of the current population size. It is estimated that the species occurs in small populations of around 50 individuals (TSSC 2012). The number of breeding females has been observed at one of the known sites to be between 14 and 40 (Pennay 2008). There is insufficient data to determine whether the species population size would be likely to undergo natural fluctuations, however given its low fecundity rate and highly specific requirements for breeding, the species does not fit the model for typical boom-bust population dynamics.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). There is no data available on the calculated extent of occurrence (EOO). There is no data available on the calculated Area of occurrence (AOO). At present, no critical habitat has been identified or declared for the species. There are three distinctive groups of the species known as Evolutionary Significant Units (ESUs) that exhibit low migration rates between colonies and low recolonisation rates (TSSC 2021b): • Central ESU: a well-defined group consisting of closely related populations in the region from central	***Principle 3 SAII = No*** DPE have determined that this species is not at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). The current distribution of this species is poorly known, noting that lack of knowledge about this species is a significant issue. Within NSW it is known from 77 parts of eight IBRA bioregions: Border Rivers-Gwydir, Central West, Hawkesbury-Nepean, Hunter-Central Rivers, Namoi, Northern Rivers, Southern Rivers and Sydney Metro (DPIE 2015). This species requires a combination of sandstone cliff/escarpment to provide roosting and breeding habitat that is adjacent to higher fertility sites particularly box gum woodlands or river/rainforest corridors which are used for foraging (TSSC 2012). As such, it is suggested that within its

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
	NSW, including Kangaroo Valley, Jenolan Caves, Broke and the Warrumbungles; • Northern ESU: a less well-defined group comprising locations in north-east NSW and south-east Queensland, which extends as far south as Armidale. At the northern end, there exists a narrow hybrid zone between *P. penicillata* and *P. herberti;* • Southern ESU: a highly divergent lineage from Victoria, and previously south-east NSW (NSW NPWS 2002). There is no information/evidence of this species experiencing extreme fluctuations in population size or habitats.	extent of occupancy it is limited to within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within 2 km of old mines or tunnels, and breeding habitat is further restricted to within 100 m of cliffs and other rock features (DPE 2022). The species area of occupancy is limited within its known distribution, restricted by availability of suitable roosting habitat. Requirements of nursery roosts are highly specific, including arched caves with indented dome roofs for heat capture and retention, and deep enough for juveniles to learn to fly inside (TSSC 2012). These physical characteristics are very uncommon in the landscape and therefore a limiting factor to the species area of occupancy. Currently there are only four known maternity caves for this species and two of these are no longer active (DAWE n.d.). The two known active maternity roosts are located near Coonabarrabran and in the Pilliga (Pennay 2008, DERM 2011). It is suggested that at the breeding stage of the lifecycle, the species distribution becomes highly concentrated into very limited areas (TSSC 2012). The current distribution of this species is poorly known, further identification of threat-defined locations is unlikely to be possible without knowledge of the whereabouts of maternity roosts. DERM (2011) state that any maternity roosts must be considered habitat critical to the survival of the species. Therefore, any potentially suitable roosting and breeding habitat ought to be considered a threat defined location. There is insufficient data to determine whether the species population size would be likely to undergo natural fluctuations, however given its low fecundity rate and highly specific requirements for breeding, the species does not fit the model for boom-bust population dynamics. Therefore, it is considered that if a sub-population lost a significant number of individuals, the recovery of the sub-population would be slow. Given the

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
		small size of the species sub-populations (around 50 individuals), a loss of many individuals from a single population may also lead to increased susceptibility to disease and infertility as a result of a drastic genetic bottleneck, which may eventually result in the loss of that sub-population. However, little is known about this species, and it is suggested that at the breeding stage of the lifecycle, the species distribution becomes highly concentrated into very limited areas (TSSC 2012), it's possible that the species maintains genetic diversity through breeding outside their sub-population.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). Brush-tailed Rock-wallabies typically exhibit low migration rates between colonies and low recolonisation rates, further impeding persistence and recovery of colonies affected by threatening processes (TSSC 2021b) The habitat of Brush-tailed Rock-wallabies tend to take one of three forms: loose piles of large boulders containing a maze of subterranean holes and passageways; cliffs (usually over 15m high) with many mid-level ledges and with some caves and/or ledges covered by overhangs; and isolated rock stacks, usually sheer-sided and often girdled with fallen boulders (TSSC 2021b). At present, no critical habitat has been identified or declared. The ability to control key threats at a biodiversity stewardship site is thought to be possible. The species is to be Very Highly sensitive to gain (DPE 2022). The removal of feral animals through fencing and control programs is achievable. Retaining key habitat attributes in large stewardship sites is vital to the species as well as encourage gene flow within large populations.	***Principle 4 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). The species has low fecundity, with a mean yearly litter size of 1.8, and the generation length is unknown (TSSC 2012). As discussed previously, the species has a very specific requirement of maternity caves. Additionally, there are many suitable roost caves within the Pilliga that are not used by the species, which indicates the species has a limited capacity to occupy new habitat within a biodiversity stewardship site. A biodiversity stewardship site would need to be established around a known maternity cave for any management actions to have a positive effect on/protect the entire lifecycle of the species. As previously discussed, the species is reliant on abiotic habitats which cannot be restored or replaced (eg, caves) on a biodiversity stewardship site. Additionally, relatively low levels of disturbance from macropods is known to have resulted in permanent abandonment of one of the four known maternity roosts, indicating that the species lifecycle may be impacted by very low levels of disturbance which may not necessarily result in the loss or modification of the maternity cave (ie, while the

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
		cave may still be present, the species use of it may not be restored following minor disturbances). The life history traits and ecology of the Large-eared Pied Bat is not well known. Threats listed in response to 2) are for the most part controlled within a biodiversity offset site, with the exception of disturbance to roost sites by mining operations. The KTP defined as *Alteration of habitat following subsidence due to longwall mining* cannot be precluded from a biodiversity stewardship site where it is established within an existing mining lease. This KTP may induce cracking, slabbing and rockfalls that may result in the loss of individuals or abandonment of the roost site as a result of the disturbance.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some of the questions in this consideration of SAII cannot be assessed at this time because: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using available information sources.	Some of the questions in this consideration of SAII cannot be assessed at this time because: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. • As such, we have noted the knowledge gaps in the TBDC and provided responses using information we have been able to source.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:		
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may	Suitable habitat for Brush-tailed Rock-wallaby was detected within the project footprint within PCTs 283, 870, 1093, 1107, 1150, and 1330 in the Bungonia IBRA subregion. Targeted fauna surveys within the project footprint did not locate the species. Where survey effort was not adequate, species	It is not possible to determine how many individuals comprise the sub-population from the available data. The total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be attained. The species was not recorded in the project footprint during

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 1.1 ha of potential habitat for Brush-tailed Rock-wallaby. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species habitat that would be impacted by the project is 1.1 ha.	targeted surveys. According to BioNet, there are 19 nearby records (31 estimated individuals) of this species within 20 km of the project footprint. All records are outside footprint and the closest record is 8 km from the project footprint boundary, connectivity of escarpment, boulders, crevices and other rock habitat is good in the area. The species is suggested to be confined to within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within 2 km of old mines or tunnels (BioNet 2022). It is known to occur within the Bungonia and Inland Slopes IBRA subregions where the project is partially located. As previously mentioned, it is suggested that at the breeding stage of the lifecycle, the species distribution becomes highly concentrated into very limited areas (ie known maternity caves, TSSC 2012), and currently only two maternity roosts are known to be in use in NSW despite extensive surveys to locate more. These roosts are not located within the locality of the project footprint. Furthermore, requirements of nursery roosts for this species are highly specific (TSSC 2012). These physical characteristics are very uncommon in the landscape and therefore a limiting factor to the species area of occupancy. The species was not recorded within the project footprint during targeted survey efforts and no maternity caves were identified during targeted surveys, however not all lands were accessed during surveys. The impact on the sub-population(s) cannot be quantified as the total population in NSW is unknown and the species was not recorded within the project footprint during targeted survey efforts. The project would result in the removal of up to 7.7 ha of potential foraging habitat in the form of associated PCTs for this species. No breeding habitat for the species would be impacted. The species unit of measure is area. There are numerous PCTs on the project footprint to which the species is associated and

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
		rock outcrop/ surface rock features were identified in three of these PCTs. Based on associated PCTs, the total area of habitat for this species within the project footprint that would be impacted by the project is 7.7 ha of foraging habitat (no breeding habitat impacted). The species polygon for this species would be formed from PCTs on the project footprint to which the species is associated that are within 2 km of identified potential roost habitat features (see Figure 13a). The species polygon covers an area of 63.53 ha, of this 1.11 ha meets the definition of breeding constraints ie, within 100 m of the aforementioned features and within 100 m of the project footprint. No breeding habitat would be impacted by the project. The project intersects approximately 160 ha of steep sandstone geologies within the Bungonia and Inland Slopes IBRA Subregion portion of the project footprint that may be considered potential roosting habitat for Large-eared Pied Bat. However, no deep excavation or drilling is required within high potential cave roosting habitat intersecting the project footprint and spanning of structures across steep gullies and outcropping would occur. Therefore, suitable rocky habitat for Large-eared Pied Bat would be avoided and the project is unlikely to impact any potential rocky habitat for this species. Whilst there would be an impact on 7.7 ha of potential foraging habitat in the project footprint , given that the nearest record of this species is within 8 km of the eastern end of the project footprint (suggesting that there is more preferred habitat outside the project footprint), no maternity caves were identified during targeted surveys (it is unlikely that there would be a maternity cave present considering that only two are known in NSW despite extensive survey effort and requirements of nursery roosts for this species are highly specific and very uncommon in the landscape), it is unlikely

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
		that the project would substantially impact the local population for this species. Regardless, although no breeding individuals or maternity caves were recorded on the project footprint during targeted surveys, breeding habitat must be considered present on the subject land if there is potential breeding habitat (OEH 2018a). Potential breeding habitat for this species must be assumed within the project footprint in accordance with the requirements of BioNet (DPIE 2022). Potential breeding habitat is PCTs associated with the species within 100 m of rocky areas containing caves, or overhangs or crevices, cliffs or escarpments, or old mines, tunnels, culverts, derelict concrete buildings, equating to 1.11 ha of the project footprint (none of which would be impacted by the project (Figure 13-5).
• impact on geographic range (Principles 1 and 3) presented by: ▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed	The project footprint comprises of 10.96 ha of potential habitat for the species, 1.1 ha (10%) of which would be impacted by the project in the Bungonia IBRA subregion. However, percentages of extents and areas of occupancy and percentages cannot be accurately determined as there is insufficient or inconsistent data available for this species. The project would impact on 1.1 ha (10%) of the 10.97 ha of potential habitat for the species within the project footprint of the Bungonia IBRA subregion. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. Therefore, the project would not create a barrier to dispersal of the species.	The project would result in the removal of up to 7.7 ha of potential foraging habitat in the form of associated PCTs for this species. The project footprint comprises 62.36 ha of land that meets the habitat constraints for the species, ie, within 2 km of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels (BioNet 2022). A total of 1.11 ha meets the definition of breeding constraints ie, within 100m of the aforementioned features, within 100m of the project footprint, none which would be impacted by the project. Percentages of extents and areas of occupancy and percentages cannot be provided as there is insufficient or inconsistent data available for this species. The project would result in the removal of up to 7.7 ha of potential foraging habitat in the form of associated PCTs for this species. However, no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken and the species was not detected. In areas that comprise the species polygon species presence has been

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
dispersal) and pollination distance for the species ▪ to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, increased edge effects, altered hydrology due to drainage lines within the project footprint, off-road vehicle activities (access tracks).	assumed as these areas were inaccessible for targeted surveys. As such, the number of individuals cannot be quantified. The project also has the potential to impact 160 ha of land containing caves, crevices, cliffs, rock habitats that are considered important to the lifecycle of this species. Across the project footprint, there are numerous limestone deposits displaying features that are expected in karst environments. No cave environments were identified within the project footprint during field campaigns. Areas of typical rocky hillslope and rock overhangs occur throughout the project footprint, in area with moderate to high topographic relief. However, impacts to the rocky environment would be negligible as would be minimally impacted, and these habitats would remain post-construction. The project has the potential to impact on connectivity for Large-eared Pied Bat through interaction with the proposed transmission line. However, the project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected for all bird and bat species. The impacts are likely to reduce over time as biodiversity acclimatises to the presence of the transmission lines (and structures), further a connectivity strategy is to be developed after the design refinement stage to minimise the extent of connectivity impacts, which may include retaining of corridors adjacent to easement to facilitate fauna movement. The consequence of the impacts would be minor and non-significant. Avoidance behaviour (such as avoiding nesting or foraging resources) and habitat utilisation (such as diverging around the broader area where easements, substations and transmission lines are located) may create a barrier effect which causes microchiropteran bats to alter their flight pathways to avoid certain areas (Threlfall et al. 2011). Reduced connectivity would be permanent, however, the impacts associated with reduced connectivity are likely to reduce over

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Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	*Petrogale penicillata* Brush-tailed Rock-wallaby	*Chalinolobus dwyeri* Large-eared Pied Bat
		time as biodiversity acclimatises, and connectivity would be retained in some sections with the implementation of a connectivity strategy to maintain fauna connectivity. Therefore, the risk of isolating threatened microbats due to increased fragmentation is considered low across the project footprint. The species (or any maternity caves) was not recorded during targeted surveys, there are no BioNet records within the project footprint and individuals recorded in the surrounding landscape would not be directly impacted by the project, therefore it is unlikely that the project would increase threats to the local population for this species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence in suitable habitat. If the species is present, individuals in the project footprint may be affected by changes to fire regimes, increased edge effects, changes in drainage and hydrology, disturbance from vegetation removal and maintenance within the clearing footprint. However, this species is not reliant on the drainage lines in the project footprint. A discussion of prescribed impacts to karst, caves, crevices, cliffs, rocks and other geological features of significance is provided in BDAR - Stage 2.
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable	Not applicable.
Likely SAII assessment outcome against relevant principles.	Given the limited extent of impact and limited likelihood of occurrence of the species an SAII outcome decision is considered unlikely.	Modelled breeding habitat of this species does not occur within the indicative disturbance area. Confinement of impacts away from potential breeding habitat and no observations of the species from targeted survey suggests an SAII outcome is unlikely. Additional inspections for cave habitat or survey for the species would aid in confirming no impacts to habitat within 2 km of breeding habitat.

3.3.3 Southern Corroborree Frog

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	Southern Corroboree Frog (*Pseudophryne corroboree)*
Impact summary	The project would result in direct impacts to a total of 22.2 ha of Southern Corroboree Frog habitat. Potential indirect impacts to the species include: • Reduced viability of adjacent habitat due to noise, dust, or light spill. • Increased risk of starvation or exposure, and loss of shade or shelter. • Increase in pest animal populations and predation of native fauna. • Changed fire regimes.
1. The assessor is required to provide further information in the BDAR or BCAR for any species at risk of an SAII, including the action and measures taken to avoid the direct and indirect impact on the species at risk of an SAII. Where these have been addressed elsewhere the assessor can refer to the relevant sections of the BDAR or BCAR.	The habitat of Southern Corroboree Frog comprises of a breeding season habitat associated with pools and seepages in Sphagnum bogs, wet tussock grasslands and wet heath, and a terrestrial non-breeding habitat in forest, sub-alpine woodland and tall heath adjacent to the breeding area. The species is assumed present within potential habitats within the project footprint but has not been directly recorded. Chapter 12 and 14 of the BDAR address avoidance and mitigation measures proposed as a part of the project. Specific measures proposed to address project impacts to threatened frogs include: • Avoiding and minimising impacts by spanning over waterways and rerouting access tracks to avoid waterway habitats wherever possible (EMM B1). • Additional targeted surveys undertaken prior to commencement of construction to delineate the extent of habitats within inaccessible lands (EMM B2). • Further design avoidance and impact minimisation to be prioritised through detailed design and micro-siting (EMM B1). This process would be supported by detailed constraints mapping identifying threatened frog habitats, their existing condition, important connectivity corridors and certainty levels regarding species occurrence where assumed present (ie likely/ unlikely to occur subject to further survey). • Establishment of biodiversity exclusion zones in retained vegetation to demarcate confirmed habitat areas as no-go zones during the construction phase (EMM B23). • Implementation of a Biodiversity Management Plan documenting approved protocols for vegetation clearing, fauna handling, fauna habitat management measures, including construction connectivity strategy to maintain habitat linkages during the construction period and post-construction rehabilitation of temporarily disturbed habitats where relevant (EMM B18).

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	Southern Corroboree Frog (*Pseudophryne corroboree)*
	• Implementation of erosion and sediment controls and soil and water management plans to manage any potential habitat disturbance as a result of ground and surface water quality or changed hydrology during construction (EMM B7). • Implementation of biosecurity protocols during construction to manage any potential risks associated with Chytrid Fungus (EMM B19). • Implementation of a Weed Control Strategy documenting measures for operational weed management to minimise ongoing disturbance associated with invasive species (EMM B20). • Use of directional lighting for all permanent lighting (i.e. substations). Artificial lighting required during construction would be directed towards work sites to minimise light spill as much as practicable (EMM B31).
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:	
• evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the: ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or ▪ decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	***Principle 1 SAII = Yes*** DPE has determined that this species is at risk of SAII due to Principle 1 – rapid decline (DPE 2022). The decline in population of the species in NSW is a reduction of >=80% in 10 years or three generations. This is attributed to the introduced Amphibian Chytrid Fungus (*Batridiochytrum dendrobatoides*). According to the TSSC (2021a) the species has undergone or is likely to undergo, within a time frame appropriate to the life cycle and habitat characteristics of the species, a very large reduction in population size based on either: an index of abundance appropriate to the taxon, geographic distribution, habitat quality or diversity, or genetic diversity. Key threats to the species (DPE 2022), which are likely to have contributed to its decline in NSW over the last 10 years are: • Pest animals: Feral pigs: Damage to breeding sites by feral pigs and horses • Disease: Chytridiomycosis: chytrid fungus • Climate Change: Alteration of habitat structure, composition, resource availability • Demographic threats: small population size: High risk of extinction due to very small population size.
• evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by: ▪ an estimate of the species' current population size in NSW, and	***Principle 2 SAII = Yes***

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	Southern Corroboree Frog (*Pseudophryne corroboree)*
▪ an estimate of the decline in the species' population size in NSW in three years or one generation (whichever is longer), and ▪ where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	DPE have determined that this species is at risk of SAII due to Principle 2 – small population size (DPE 2022). The species population is estimated at < 50 individuals or < 250 individuals where threats are known. There are no data available to evaluate the population trend over three years or one generation (TSSC 2021a). See above for more detail. According to TSSC (2021a) the estimated total number of mature individuals is 'very low'. The TSSC (2021a) estimates a wild population between 100 and 150 individuals.
• evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by: ▪ extent of occurrence ▪ area of occupancy ▪ number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and ▪ whether the species' population is likely to undergo extreme fluctuations	***Principle 3 SAII = Yes*** DPE have determined that this species is at risk of SAII due to Principle 3 – limited geographic range (DPE 2022). The calculated extent of occurrence (EOO) is <45 km^2 (DPE 2022). The area of occupancy (AOO) for the species is estimated to be <36 km^2 (DPE 2022). At present, no critical habitat has been identified or declared for the species. The species has a very highly restricted distribution, with populations occurring entirely within Kosciuszko National Park (TSSC 2021a). This has now contracted further to the western edge of its former distribution. There is no information/evidence of this species experiencing extreme fluctuations in population size or habitat.
• evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because: ▪ known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (eg species is clonal) on, a biodiversity stewardship site ▪ the species is reliant on abiotic habitats which cannot be restored or replaced (eg karst systems) on a biodiversity stewardship site, or ▪ life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (eg frogs severely impacted by chytrid fungus).	***Principle 4 SAII = No*** DPE have not determined that this species is at risk of SAII due to Principle 4 – unlikely to respond to management (DPE 2022). This species has no known characteristics that could severely limit its ability to increase on a biodiversity stewardship site. The habitat of Southern Corroboree Frog comprises of a breeding season habitat associated with pools and seepages in Sphagnum bogs, wet tussock grasslands and wet heath, and a terrestrial non-breeding habitat in forest, sub-alpine woodland and tall heath adjacent to the breeding area. At present, no critical habitat has been identified or declared. The ability to control key threats at a biodiversity stewardship site is thought to be possible. The species is to be Very Highly sensitive to gain (DPE 2022). The removal of feral animals through fencing and control programs

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	Southern Corroboree Frog (*Pseudophryne corroboree)*
	is achievable. To mitigate the threat of Amphibian Chytrid Fungus, a strict hygiene protocol would be able to be enforced on a biodiversity stewardship site in alignment with DEE (2016).
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	The TBDC does not indicate that data is 'unknown' or 'data deficient' for this species for a criterion listed in Subsection 9.1.1(2.). Some responses in this consideration of SAII cannot be completed comprehensively due to the following: • The species information available in TBDC, BioNet and other reliable/peer reviewed information about the species is limited • A lot of the information is not covered by scientific papers, and there are significant knowledge gaps. As such, we have noted the knowledge gaps in the TBDC and provided responses using information from the limited available sources.
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:	
• the impact on the species' population (Principles 1 and 2) presented by: ▪ an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and ▪ an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or ▪ if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	Suitable habitat for *Pseudophryne corroboree* was detected within the project footprint within PCTs 679 and 1196 in the Snowy Mountains IBRA subregion. Targeted fauna surveys within the project footprint did not locate the species. Where survey effort was not adequate, species presence has been assumed within suitable habitat. There are no records within 20 km of the project (DPE 2022). As such, a percentage of the total population present in the subpopulation on the project footprint cannot be attained. Given the species was not recorded and is only assumed present, and the limited information available on the total population of the species, it is not possible to determine the number of individuals (mature and immature) that would be impacted by the project and as a percentage of the total NSW population. As above, the total population in NSW is unknown, as such a percentage to be impacted of the total population cannot be determined. The project would result in the direct impact to 22.2 ha of potential habitat for South Corroborree Frog. The species unit of measure is area. The species was not located within the project footprint despite targeted surveys in accessible land. Where survey effort was not adequate, species presence has been assumed within suitable habitat. The total area of this species habitat that would be impacted by the project is 22.14 ha.
• impact on geographic range (Principles 1 and 3) presented by:	The project footprint comprises of 43.94 ha of potential habitat for the species, 22.2 ha (51%) of which would be impacted by the project. The extent of occurrence and area of occupancy for this species was estimated to be <45 km^2 and <36 km^2, respectively (TSSC, 2021). Therefore, the

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	Southern Corroboree Frog (*Pseudophryne corroboree)*
▪ the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total area of occupancy or extent of occupancy within NSW ▪ the impact on the subpopulation as either: all individuals will be impacted (subpopulation eliminated); OR impact will affect some individuals and habitat; OR impact will affect some habitat, but no individuals of the species will be directly impacted ▪ to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (eg seed dispersal) and pollination distance for the species ▪ To determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including changes to fire regimes (frequency, severity); hydrology, pollutants; species interactions (increased competition and effects on pollinators or dispersal); fragmentation, increased edge effects, likelihood of disturbance; and disease, pathogens and parasites. Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	project may impact 0.6% of the Southern Corroboree Frog range however it is not known whether the impact areas are within the calculated extent of occurrence or area of occupancy given the limited distribution of the species. The project would impact on 22.2 ha (51%) of the 43.94 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no known individuals of the species. Where targeted surveys were undertaken the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. The project would impact on 22.2 ha (51%) of the 43.94 ha of potential habitat for the species within the project footprint. The project would impact some habitat, but no individuals of the species is likely to be directly impacted in areas where targeted surveys were undertaken as the species was not detected. In areas that comprise the species polygon that could not be adequately surveyed, species presence has been assumed. As such, the number of individuals cannot be quantified. The project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected. This species is likely to be able to traverse the long, linear nature of the area to be cleared. Any impacts on species connectivity are likely to reduce over time as biodiversity acclimatises to the presence of the transmission lines (and structures), further a connectivity strategy is to be developed after the design refinement stage to minimise the extent of connectivity impacts, which may include retaining of corridors adjacent to easement to facilitate fauna movement. The consequence of the impacts would be minor and non-significant. Therefore, the project would not create a barrier to dispersal of the species. The impact on the sub-population(s) cannot be quantified, as the species polygon has been calculated based on assumed presence. If the species is present, individuals in the project footprint may be affected by changes to fire regimes in surrounding vegetation as a result of management for asset protection, habitat loss, increased edge effects, introduction or spread of pathogens such as Chytrid Fungus, altered hydrology due to drainage lines within the project footprint, chemical pollution, and off-road vehicle activities (access tracks).
5. The assessor may also provide new information that can be used to demonstrate that the principle identifying the species as at risk of an SAII, is inaccurate.	Not applicable
Likely SAII assessment outcome against relevant principles.	There is unlikely to be a significant risk that the species would be impacted such that an SAII occurs given the low likelihood of occurrence within the impacted areas. Additional targeted

Additional impact assessment provisions for species at risk of SAII (Section 9.1.2 of the BAM)	Southern Corroboree Frog (*Pseudophryne corroboree)*
	survey over the limited extent of potential impact areas will assist in clarifying whether habitat is suitable for the species.

Attachment 14. Fauna species list

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemaan	Snowy Mountains	Grand Total
Amphibians										
Crinia parinsignifera	Eastern Sign-bearing Froglet	Not Listed	Not Listed			9	37	37		83
Crinia signifera	Common Eastern Froglet	Not Listed	Not Listed		10	23	19	22	25	99
Limnodynastes dumerilii	Eastern Banjo Frog	Not Listed	Not Listed	2	6	9	1	5	2	25
Limnodynastes peronii	Brown-striped Frog	Not Listed	Not Listed		2	17		1		20
Limnodynastes tasmaniensis	Spotted Grass Frog	Not Listed	Not Listed		2	25	43	25		95
Litoria latopalmata	Broad-palmed Frog	Not Listed	Not Listed		1		6	2		9
Litoria peronii	Peron's Tree Frog	Not Listed	Not Listed		2	4	8	12		26
Litoria verreauxii	Verreaux's Frog	Not Listed	Not Listed			2		5	24	31
Litoria wilcoxii	Eastern Stony Creek Frog	Not Listed	Not Listed					1		1
Neobatrachus sudellae	Sudell's Frog	Not Listed	Not Listed				7	4		11
Pseudophryne bibronii	Bibron's Toadlet	Not Listed	Not Listed	1			1	1	24	27
Pseudophryne dendyi	Southern Toadlet	Not Listed	Not Listed	2					1	3
Uperoleia laevigata	Smooth Toadlet	Not Listed	Not Listed				1	7		8

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Aves										
Acanthiza chrysorrhoa	Yellow-rumped Thornbill	Not Listed	Not Listed			2	10	5	3	20
Acanthiza lineata	Striated Thornbill	Not Listed	Not Listed	3	6	7	10	5	8	39
Acanthiza nana	Yellow Thornbill	Not Listed	Not Listed	1	2	6	2	5	9	25
Acanthiza pusilla	Brown Thornbill	Not Listed	Not Listed	14	6	8	4	10	24	66
Acanthiza reguloides	Buff-rumped Thornbill	Not Listed	Not Listed			8	5	11		24
Acanthiza uropygialis	Chestnut-rumped Thornbill	Not Listed	Not Listed	1						1
Acanthorhynchus tenuirostris	Eastern Spinebill	Not Listed	Not Listed	2		2			2	6
Acrocephalus stentoreus	Clamorous Reed-Warbler	Not Listed	Not Listed				1			1
Aegotheles cristatus	Australian Owlet-nightjar	Not Listed	Not Listed		3	1	14	5		23
Alisterus scapularis	Australian King-Parrot	Not Listed	Not Listed	2			2		2	6
Anas platyrhynchos	Mallard	Exotic	Exotic					5		5
Anas superciliosa	Pacific Black Duck	Not Listed	Not Listed			2	4	1		7
Anseranas semipalmata	Magpie Goose	Not Listed	Not Listed				1			1

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Anthochaera carunculate	Red Wattlebird	Not Listed	Not Listed	3	5	7	19	11	48	93
Anthochaera chrysoptera	Little Wattlebird	Not Listed	Not Listed	1					4	5
Anthochaera paradoxa	Yellow Wattlebird	Not Listed	Not Listed		1					1
Anthus novaeseelandiae	Australian Pipit	Not Listed	Not Listed		1	2	8			11
Aphelocephala leucopsis	Southern Whiteface	Not Listed	Not Listed			1				1
Apus pacificus	Fork-tailed Swift	Not Listed	Not Listed				1			1
Aquila audax	Wedge-tailed Eagle	Not Listed	Not Listed	2	3	4	26	18		53
Ardea pacifica	White-necked Heron	Not Listed	Not Listed				1			1
Artamus cyanopterus cyanopterus	Dusky Woodswallow	Not Listed	Vulnerable				3	6		9
Aythya australis	Hardhead	Not Listed	Not Listed					1		1
Cacatua galerita	Sulphur-crested Cockatoo	Not Listed	Not Listed	11	1	19	29	17	10	87
Cacatua sanguinea	Little Corella	Not Listed	Not Listed			1	4	1		6
Cacomantis flabelliformis	Fan-tailed Cuckoo	Not Listed	Not Listed	1		1	3	3		8
Caligavis chrysops	Yellow-faced Honeyeater	Not Listed	Not Listed	3	3		14	9	9	38
Callocephalon fimbriatum	Gang-gang Cockatoo	Endangered	Vulnerable	27	66	19	33	16	101	262

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Vulnerable		2					2
Chalcites basalis	Horsfield's Bronze-Cuckoo	Not Listed	Not Listed		2		3	2		7
Chalcites osculans	Black-eared Cuckoo	Not Listed	Not Listed	1						1
Chenonetta jubata	Australian Wood Duck	Not Listed	Not Listed				12	6	1	19
Chlamydera maculate	Spotted Bowerbird	Not Listed	Not Listed				1			1
Chthonicola sagittate	Speckled Warbler	Not Listed	Vulnerable				2			2
Cincloramphus mathewsi	Rufous Songlark	Not Listed	Not Listed				12	1		13
Cinclosoma punctatum	Spotted Quail-thrush	Not Listed	Not Listed					4		4
Circus assimilis	Spotted Harrier	Not Listed	Vulnerable					1		1
Climacteris affinis	White-browed Treecreeper	Not Listed	Not Listed	4			1		1	6
Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Not Listed	Vulnerable	4			19		2	25
Colluricincla harmonica	Grey Shrike-thrush	Not Listed	Not Listed		2	9	32	13	16	72
Coracina novaehollandiae	Black-faced Cuckoo-shrike	Not Listed	Not Listed			6	17	5	3	31
Corcorax melanorhamphos	White-winged Chough	Not Listed	Not Listed	3	7	1	26	18	3	58
Cormobates leucophaea	White-throated Treecreeper	Not Listed	Not Listed	18	13	23	91	28	47	220

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Corvus coronoides	Australian Raven	Not Listed	Not Listed	1	2	14	45	19	6	87
Corvus mellori	Little Raven	Not Listed	Not Listed	2		3	8	2		15
Corvus orru	Torresian Crow	Not Listed	Not Listed				9	1		10
Corvus tasmanicus	Forest Raven	Not Listed	Not Listed			8			1	9
Coturnix pectoralis	Stubble Quail	Not Listed	Not Listed					3	1	4
Cracticus nigrogularis	Pied Butcherbird	Not Listed	Not Listed		1		3	2	1	7
Cracticus torquatus	Grey Butcherbird	Not Listed	Not Listed			1	3	2		6
Dacelo novaeguineae	Laughing Kookaburra	Not Listed	Not Listed	4	6	21	42	17	18	108
Daphoenositta chrysoptera	Varied Sittella	Not Listed	Vulnerable				1	3		4
Dicaeum hirundinaceum	Mistletoebird	Not Listed	Not Listed				2			2
Dromaius novaehollandiae	Emu	Not Listed	Not Listed			1			8	9
Edolisoma tenuirostris	Cicadabird	Not Listed	Not Listed		1		1			2
Egretta novaehollandiae	White-faced Heron	Not Listed	Not Listed	1		2				3
Elanus axillaris	Black-shouldered Kite	Not Listed	Not Listed		1		4			5
Entomyzon cyanotis	Blue-faced Honeyeater	Not Listed	Not Listed				1			1
Eolophus roseicapilla	Galah	Not Listed	Not Listed	3	2	9	52	18		84

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Eopsaltria australis	Eastern Yellow Robin	Not Listed	Not Listed	5	3		16	1	12	37
Eurostopodus mystacalis	White-throated Nightjar	Not Listed	Not Listed				3	1		4
Falco berigora	Brown Falcon	Not Listed	Not Listed				2	3		5
Falco cenchroides cenchroides	Nankeen Kestrel	Not Listed	Not Listed				5	2		7
Falco longipennis	Australian Hobby	Not Listed	Not Listed	1		1	3			5
Falco peregrinus	Peregrine Falcon	Not Listed	Not Listed				1	1		2
Falcunculus frontatus frontatus	Eastern Shrike-tit	Not Listed	Not Listed				2			2
Fulica atra	Eurasian Coot	Not Listed	Not Listed				1			1
Gallinula tenebrosa	Dusky Moorhen	Not Listed	Not Listed				1			1
Geopelia cuneata	Diamond Dove	Not Listed	Not Listed				1			1
Geopelia humeralis	Bar-shouldered Dove	Not Listed	Not Listed				1			1
Geopelia placida	Peaceful Dove	Not Listed	Not Listed				1			1
Gerygone fusca	Western Gerygone	Not Listed	Not Listed				3	2		5
Gerygone mouki	Brown Gerygone	Not Listed	Not Listed						1	1
Gerygone olivacea	White-throated Gerygone	Not Listed	Not Listed		2		14	7		23
Grallina cyanoleuca	Magpie-lark	Not Listed	Not Listed	2	3	3	29	11	3	51

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Gymnorhina tibicen	Australian Magpie	Not Listed	Not Listed	16	13	28	83	179	30	349
Haliaeetus leucogaster	White-bellied Sea-Eagle	Not Listed	Vulnerable					1		1
Haliastur sphenurus	Whistling Kite	Not Listed	Not Listed				1	1		2
Heteroscenes pallidus	Pallid Cuckoo	Not Listed	Not Listed				1	1		2
Hieraaetus morphnoides	Little Eagle	Not Listed	Vulnerable				2	4		6
Hirundo neoxena	Welcome Swallow	Not Listed	Not Listed		1	1		1		3
Lalage sueurii	White-winged Triller	Not Listed	Not Listed				4		1	5
Malurus cyaneus	Superb Fairy-wren	Not Listed	Not Listed	15	6	13	40	21	22	117
Malurus lamberti	Variegated Fairy-wren	Not Listed	Not Listed	6		1	7	1		15
Manorina melanocephala	Noisy Miner	Not Listed	Not Listed		4	2	21	4	5	36
Manorina melanophrys	Bell Miner	Not Listed	Not Listed	1					1	2
Meliphaga lewinii	Lewin's Honeyeater	Not Listed	Not Listed						3	3
Melithreptus brevirostris	Brown-headed Honeyeater	Not Listed	Not Listed	1	1			4		6
Melithreptus lunatus	White-naped Honeyeater	Not Listed	Not Listed					1	9	10
Menura novaehollandiae	Superb Lyrebird	Not Listed	Not Listed	2			11	1	12	26

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	Snowy Mountains	Grand Total
Merops ornatus	Rainbow Bee-eater	Not Listed	Not Listed				9	2		11
Microcarbo melanoleucos	Little Pied Cormorant	Not Listed	Not Listed			1				1
Microeca fascinans	Jacky Winter	Not Listed	Not Listed				3	3	2	8
Milvus migrans	Black Kite	Not Listed	Not Listed				13			13
Myiagra cyanoleuca	Satin Flycatcher	Not Listed	Not Listed				1	2	2	5
Myiagra inquieta	Restless Flycatcher	Not Listed	Not Listed	1			2	2	4	9
Myiagra rubecula	Leaden Flycatcher	Not Listed	Not Listed	1				3		4
Myzomela sanguinolenta	Scarlet Honeyeater	Not Listed	Not Listed				3			3
Neochmia temporalis	Red-browed Finch	Not Listed	Not Listed	1	1	2	2	3	4	13
Nesoptilotis leucotis	White-eared Honeyeater	Not Listed	Not Listed			1		2	2	5
Ninox boobook	Southern Boobook	Not Listed	Not Listed	2	1	2	10	3	1	19
Ninox connivens	Barking Owl	Not Listed	Vulnerable						1	1
Ninox novaeseelandiae	Southern Boobook	Not Listed	Not Listed	1		2	6	1	5	15
Ninox strenua	Powerful Owl	Not Listed	Vulnerable		1		1			2
Ocyphaps lophotes	Crested Pigeon	Not Listed	Not Listed				4	1		5
Oriolus sagittatus	Olive-backed Oriole	Not Listed	Not Listed			1	5	2	1	9

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	Snowy Mountains	Grand Total
Pachycephala olivacea	Olive Whistler	Not Listed	Vulnerable						2	2
Pachycephala pectoralis	Golden Whistler	Not Listed	Not Listed	1			5	2	9	17
Pachycephala rufiventris	Rufous Whistler	Not Listed	Not Listed	3	5		15	11	1	35
Pardalotus punctatus	Spotted Pardalote	Not Listed	Not Listed	3		3	19	6	24	55
Pardalotus striatus	Striated Pardalote	Not Listed	Not Listed	1	3		14	4	14	36
Petroica boodang	Scarlet Robin	Not Listed	Vulnerable	3	1	10	13	4		31
Petroica goodenovii	Red-capped Robin	Not Listed	Not Listed					2		2
Petroica phoenicea	Flame Robin	Not Listed	Vulnerable	3	2		14		24	43
Phaps chalcoptera	Common Bronzewing	Not Listed	Not Listed		1	1	10		1	13
Phaps elegans	Brush Bronzewing	Not Listed	Not Listed				1			1
Philemon citreogularis	Little Friarbird	Not Listed	Not Listed				1			1
Philemon corniculatus	Noisy Friarbird	Not Listed	Not Listed	1	7	5	20	7	17	57
Platycercus adscitus eximius x venustus	Eastern Rosella/Northern Rosella hybrid	Not Listed	Not Listed				1	3		4
Platycercus elegans	Crimson Rosella	Not Listed	Not Listed	21	6	25	32	24	42	150
Platycercus eximius	Eastern Rosella	Not Listed	Not Listed	2	1	6	33	11	7	60

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	Snowy Mountains	Grand Total
Plectorhyncha lanceolata	Striped Honeyeater	Not Listed	Not Listed				1	1		2
Podargus strigoides	Tawny Frogmouth	Not Listed	Not Listed		1	3	6	10	1	21
Polytelis Hybrid	Regent/Superb Parrot	Not Listed	Not Listed				2			2
Polytelis swainsonii	Superb Parrot	Vulnerable	Vulnerable				6	5		11
Pomatostomus superciliosus	White-browed Babbler	Not Listed	Not Listed				1			1
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Not Listed	Vulnerable				22			22
Psephotus haematonotus	Red-rumped Parrot	Not Listed	Not Listed		3		18	2	2	25
Psophodes olivaceus	Eastern Whipbird	Not Listed	Not Listed	3	3				1	7
Ptilonorhynchus violaceus	Satin Bowerbird	Not Listed	Not Listed	4	1		8		2	15
Ptilotula fusca	Fuscous Honeyeater	Not Listed	Not Listed			1	2			3
Ptilotula penicillate	White-plumed Honeyeater	Not Listed	Not Listed				10	3		13
Rhipidura albiscapa	Grey Fantail	Not Listed	Not Listed	23	6	13	28	22	21	113
Rhipidura leucophrys	Willie Wagtail	Not Listed	Not Listed	1	1	3	23	6	1	35
Rhipidura rufifrons	Rufous Fantail	Not Listed	Not Listed	2					4	6

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	Snowy Mountains	Grand Total
Sericornis frontalis	White-browed Scrubwren	Not Listed	Not Listed	3	5	6	4	5	14	37
Smicrornis brevirostris	Weebill	Not Listed	Not Listed	1			6	4		11
Spilopelia chinensis	Spotted Turtle-Dove	Exotic	Exotic				1			1
Stagonopleura guttata	Diamond Firetail	Not Listed	Vulnerable				4	14		18
Strepera fuliginosa	Black Currawong	Not Listed	Not Listed					2		2
Strepera graculina	Pied Currawong	Not Listed	Not Listed	9	5	19	49	19	37	138
Strepera versicolor	Grey Currawong	Not Listed	Not Listed			2	2	3	4	11
Sturnus vulgaris	Common Starling	Exotic	Exotic			3	10	2		15
Synoicus ypsilophora	Brown Quail	Not Listed	Not Listed	2		1	1			4
Tachybaptus novaehollandiae novaehollandiae	Australasian Grebe	Not Listed	Not Listed				1			1
Threskiornis moluccus	Australian White Ibis	Not Listed	Not Listed				1			1
Todiramphus sanctus	Sacred Kingfisher	Not Listed	Not Listed		2		6	1		9
Turdus merula	Eurasian Blackbird	Exotic	Exotic		2		3	11		16
Turnix varius	Painted Button-quail	Not Listed	Not Listed				4	1		5
Turnix velox	Little Button-quail	Not Listed	Not Listed			1				1

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	Snowy Mountains	Grand Total
Tyto alba	Barn Owl	Not Listed	Not Listed	1			2			3
Zanda funereus	Yellow-tailed Black-Cockatoo	Not Listed	Not Listed	10			7		7	24
Zosterops lateralis	Silvereye	Not Listed	Not Listed	6	4	6	9	2	3	30
Invertebrates										
Austrolestes aridus	Inland Ringtail	Not Listed	Not Listed			2				2
Keyacris scurra	Key's Matchstick Grasshopper	Not Listed	Endangered					4		4
Rhamphus acaciae	Rhamphus beetle	Not Listed	Not Listed		1					1
Mammals										
Acrobates pygmaeus	Feathertail Glider	Not Listed	Not Listed				2			2
Antechinus agilis	Agile Antechinus	Not Listed	Not Listed						4	4
Antechinus flavipes	Yellow-footed Antechinus	Not Listed	Not Listed		6	7				13
Antechinus stuartii	Brown Antechinus	Not Listed	Not Listed	25			67	16	6	114
Austronomus australis	White-striped Freetail-bat	Not Listed	Not Listed		32	78	261	140	184	695
Axis axis	Chital	Exotic	Exotic	3	2	5	1		2	13
Bos taurus	European cattle	Exotic	Exotic				2	1		3
Capra hircus	Goat	Exotic	Exotic				6	3		9
Cercartetus nanus	Eastern Pygmy-possum	Not Listed	Vulnerable					2	2	4

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	Snowy Mountains	Grand Total
Chalinolobus gouldii	Gould's Wattled Bat	Not Listed	Not Listed		155	755	530	370	526	2336
Chalinolobus morio	Chocolate Wattled Bat	Not Listed	Not Listed		8775	622	659	292	50	10398
Dama dama	Fallow Deer	Exotic	Exotic						1	1
Equus caballus	Horse	Exotic	Exotic	1					16	17
Falsistrellus tasmaniensis	Eastern False Pipistrelle	Not Listed	Vulnerable		118	407	252	68	60	905
Felis catus	Cat	Exotic	Exotic				2	6		8
Hydromys chrysogaster	Water-rat	Not Listed	Not Listed			1	1	1		3
Lepus capensis	Brown Hare	Exotic	Exotic	2		3		2		7
Macropus giganteus	Eastern Grey Kangaroo	Not Listed	Not Listed	5	115	45	135	449	6	755
Macropus Hybrid	Euro/Red Kangaroo	Not Listed	Not Listed					1		1
Miniopterus orianae oceanensis	Large Bent-winged Bat	Not Listed	Vulnerable		34	47	172	64	14	331
Mus musculus	House Mouse	Exotic	Exotic	2			19	2		23
Myotis Macropus	Southern Myotis	Not Listed	Vulnerable		20	6	127	16		169
Notamacropus rufogriseus	Red-necked Wallaby	Not Listed	Not Listed			1	24	2	1	28
Nyctophilus geoffroyi	Lesser Long-eared Bat	Not Listed	Not Listed		2					2
Nyctophilus gouldi	Gould's Long-eared Bat	Not Listed	Not Listed		1					1
Nyctophilus sp.	Long-eared bat	Not Listed	Not Listed		36	60	25	130	12	263

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Ornithorhynchus anatinus	Platypus	Not Listed	Not Listed						1	1
Oryctolagus cuniculus	Rabbit	Exotic	Exotic			1	3	169		173
Osphranter robustus	Common Wallaroo	Not Listed	Not Listed			2	1	17		20
Ovis aries	Sheep (feral)	Exotic	Exotic					2		2
Ozimops planiceps	South-eastern Free-tailed Bat	Not Listed	Not Listed		38	6	936	202	134	1316
Ozimops ridei	Eastern Free-tailed Bat	Not Listed	Not Listed		396	189	406	280	206	1477
Perameles nasuta	Long-nosed Bandicoot	Not Listed	Not Listed				1			1
Petauroides volans	Greater Glider	Endangered	Endangered	18	2				15	35
Petaurus australis	Yellow-bellied Glider	Vulnerable	Vulnerable	9			1		19	29
Petaurus breviceps	Sugar Glider	Not Listed	Not Listed		6	9	2	4	1	22
Petaurus breviceps\ norfolcensis	Sugar\Squirrel Glider	Not Listed	Not Listed					1		1
Petaurus norfolcensis	Squirrel Glider	Not Listed	Vulnerable			3	2	3	1	9
Petaurus sp.	Glider	Not Listed	Not Listed			2		1	1	4
Pseudocheirus peregrinus	Common Ringtail Possum	Not Listed	Not Listed	7	3	55	21	13	7	106
Rattus fuscipes	Bush Rat	Not Listed	Not Listed	16	9	3	11	32		71
Rattus rattus	Black Rat	Exotic	Exotic		1		10	5		16

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Rhinolophus megaphyllus	Eastern Horseshoe-bat	Not Listed	Not Listed		36					36
Scoteanax rueppellii	Greater Broad-nosed Bat	Not Listed	Vulnerable		62	373	3	30	60	528
Scotorepens balstoni	Inland Broad-nosed Bat	Not Listed	Not Listed		4		48	14	12	78
Scotorepens orion	Eastern Broad-nosed Bat	Not Listed	Not Listed		8	32	8	4	42	94
Sus scrofa	Pig	Exotic	Exotic		18	2	4			24
Tachyglossus aculeatus	Short-beaked Echidna	Not Listed	Not Listed		5	1	2	8		16
Trichosurus caninus	Short-eared Possum	Not Listed	Not Listed		1					1
Trichosurus cunninghami	Mountain Brushtail Possum	Not Listed	Not Listed			1				1
Trichosurus vulpecula	Common Brushtail Possum	Not Listed	Not Listed	7	20	32	216	48	58	381
Vespadelus darlingtonia	Large Forest Bat	Not Listed	Not Listed		1501	670	1570	756	98	4595
Vespadelus regulus	Southern Forest Bat	Not Listed	Not Listed		226	140	425	134	140	1065
Vespadelus vulturnus	Little Forest Bat	Not Listed	Not Listed		237	155	652	860	186	2090
Vombatus ursinus	Bare-nosed Wombat	Not Listed	Not Listed		18	29	12	106		165
Vulpes vulpes	Fox	Exotic	Exotic	1	1	4	11	85		102
Wallabia bicolor	Swamp Wallaby	Not Listed	Not Listed	2	18	23	41	118		202
Reptiles										

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Acritoscincus duperreyi	Eastern Three-lined Skink	Not Listed	Not Listed						1	1
Acritoscincus platynotus	Red-throated Skink	Not Listed	Not Listed					1	1	2
Amphibolurus muricatus	Jacky Lizard	Not Listed	Not Listed		3					3
Anepischetosia maccoyi	Highlands Forest-skink	Not Listed	Not Listed						7	7
Anilios nigrescens	Blackish Blind Snake	Not Listed	Not Listed					1		1
Aprasia parapulchella	Pink-tailed Legless Lizard	Vulnerable	Vulnerable					5	1	6
Austrelaps ramsayi	Highland Copperhead	Not Listed	Not Listed						2	2
Austrelaps sp.	Copperhead	Not Listed	Not Listed						1	1
Carinascincus coventryi	Southern Forest Cool-skink	Not Listed	Not Listed						6	6
Carlia tetradactyla	Southern Rainbow-skink	Not Listed	Not Listed				3	1		4
Chelodina longicollis	Eastern Snake-necked Turtle	Not Listed	Not Listed					2		2
Chelodina sp.	Long-Necked Turtle (sp.)	Not Listed	Not Listed					4		4
Christinus marmoratus	Marbled Gecko	Not Listed	Not Listed				1	2		3
Ctenotus robustus	Robust Ctenotus	Not Listed	Not Listed	2			1		6	9
Ctenotus taeniolatus	Copper-tailed Skink	Not Listed	Not Listed			2	3	5		10

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatemam	Snowy Mountains	Grand Total
Delma inornate	Patternless Delma	Not Listed	Not Listed					2		2
Diplodactylus vittatus	Wood Gecko	Not Listed	Not Listed				4	10		14
Diporiphora nobbi	Nobbi Dragon	Not Listed	Not Listed			1				1
Egernia cunninghami	Cunningham's Skink	Not Listed	Not Listed			3	27	10		40
Egernia saxatilis	Black Rock Skink	Not Listed	Not Listed						4	4
Egernia striolata	Tree Skink	Not Listed	Not Listed					5		5
Elapidae sp.	Elapid snakes	Not Listed	Not Listed					1		1
Eulamprus heatwolei	Yellow-bellied Water-skink	Not Listed	Not Listed	2						2
Eulamprus quoyii	Eastern Water-skink	Not Listed	Not Listed						2	2
Eulamprus tympanum	Southern Water-skink	Not Listed	Not Listed					1	3	4
Hemiergis talbingoensis	Eastern three-toed earless skink	Not Listed	Not Listed	2			3		2	7
Lampropholis guichenoti	Pale-flecked Garden Sunskink	Not Listed	Not Listed	1		1			12	14
Lerista bougainvillii	South-eastern Slider	Not Listed	Not Listed				1	4		5
Morethia boulengeri	South-eastern Morethia Skink	Not Listed	Not Listed		1		1	2		4
Notechis scutatus	Tiger Snake	Not Listed	Not Listed			1				1
Pogona barbata	Bearded Dragon	Not Listed	Not Listed	1				3		4

Scientific Name	Common Name	EPBC conservation	NSW conservation status	Count of Species						
				Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbatema n	Snowy Mountains	Grand Total
Pseudemoia entrecasteauxii	Tussock Cool-skink	Not Listed	Not Listed						6	6
Pseudemoia spenceri	Trunk-climbing Cool-skink	Not Listed	Not Listed						6	6
Pseudonaja textilis	Eastern Brown Snake	Not Listed	Not Listed				1		2	3
Rankinia diemensis	Mountain Dragon	Not Listed	Not Listed		1					1
Tiliqua rugosa	Shingle-back	Not Listed	Not Listed				3	9		12
Tiliqua scincoides	Eastern Blue-tongue	Not Listed	Not Listed			1	1			2
Varanus rosenbergi	Rosenberg's Goanna	Not Listed	Vulnerable		1					1
Varanus varius	Lace Monitor	Not Listed	Not Listed		2		7	6		15
Aquatic fauna										
Cherax destructor	Dam Yabby	Not Listed	Not Listed					2		2
Cyprinus carpio	Carp	Not Listed	Not Listed					30		30
Galaxias sp.	Galaxiid	Not Listed	Not Listed	1				5		6
Gambusia holbrooki	Mosquito Fish	Exotic	Exotic					1		1
Grand Total				**382**	**12169**	**4223**	**8159**	**5427**	**2690**	**33050**

Attachment 15: BC Act candidate species bushfire assessment table

Table A15- 1: Candidate threatened flora species within severely burnt sites.

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
Acacia ausfeldii	Ausfeld's Wattle	V	-	Species	-		X		277	*Acacia ausfeldii* has been found to have a strong germination at high temperature treatments (100°C) (Brown *et al.* 2003). Prior to temperatures reaching 100 °C no difference in germination rates was observed in the species. The species response to higher temperatures is unknown. A study conducted after a 2013 bushfire in the Warrumbungle's showed that Acacia species were typically denser in regrowth in areas burnt at high severity (Palmer et al. 2018).	**Targeted surveys appropriate** Research shows that Acacia species, and specifically *Acacia ausfeldii* respond well to fire. If the species did occur within vegetation severely burnt, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic survey effort (Inland Slopes) (Table 4-13).
Acacia phasmoides	Phantom Wattle	V	V	Species	Yes		X		287	There is little data about *Acacia phasmoides* response to fire. There was some evidence of basal resprouting post low to medium intensity fire, and post drought stress (DPIE, 2021). There is scant information on seed germination rates post-fire, however, like other acacia species, *Acacia phasmoides* is assumed to recruit from the soil-stored seed bank (Palmer, 2016).	**Targeted surveys appropriate** While there is little research on *Acacia phasmoides* response to fire, studies show that Acacia species respond well to fire. If the species did occur within severely burnt vegetation prior to the 2019-2020 bushfire, considering the time frame post fire it is reasonable to assume that the species would have persisted and could be detected post fire. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic survey effort (Table 4-13).
Ammobium craspedioides	Yass Daisy	V	V	Species	-	X	X		268, 277, 287, 290 & 352	A study completed by Doherty and Wright (2006) on the 2003 bushfire in the Australian Alps, found *Ammobium craspedioides* to be sufficiently re-sprouting and flowering in the vicinity of burnt areas near Burrinjuck.	**Targeted surveys appropriate** Given previous research showed that *Ammobium craspedioides* responds well to fire, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic survey effort (Bondo and Inland Slopes) (Table 4-13).
Bossiaea fragrans	-	CE	CE	Species	Yes		X		268	There is little data about *Bossiaea fragrans* response to fire. The species very limited known distribution and lack of bushfires in that area has resulted in a knowledge gap surrounding fire response. Similar to other *Bossiaea* species, it is thought to both set a long-lived seedbank, and also resprout post fire (Clarke et al 2009; DCCEEW 2022a).	**Targeted surveys appropriate** Given the broadly positive response of other Bossiaea species to fire, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic survey effort (Inland Slopes) (Table 4-13).
Caesia parviflora var. minor	Small Pale Grass-lily	E	-	Species	-		X		297	There is very little data about *Caesia parviflora var. minor* response to fire. The closely related, more common *Caesia parviflora var. parviflora* has been shown to resprout post fire in multiple locations (Kubiak 2009). Given ongoing taxonomic issues in this genus, much of the life history traits and fire response of *Caesia parviflora var. minor* are assumed to be similar to its common relative (Henderson 1987).	**Targeted surveys appropriate** Given the positive fire response traits of this genus, if *Caesia parviflora var. minor* did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are

[1] Bondo IBRA subregion
[2] Inland Slopes IBRA subregion
[3] Snowy Mountains IBRA subregion

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
											considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic survey effort (Inland Slopes) (Table 4-13).
Caladenia concolor	Crimson Spider Orchid	E	V	Species	Yes		X		268, 280 & 290	*Caladenia concolor* have been found to respond positively to fire (Duncan 2012). Duncan notes that Caladenia species are stimulated by bushfire.	**Targeted surveys appropriate** Given the literature shows *Caladenia concolor* responds well to fire, if the species occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora parallel field traverse survey effort (Inland Slopes) (Table 4-14).
Caladenia montana	-	V	-	Species	-	X		X	300, 638, 679, 953 & 1196	The ACT Orchid Field Guide (2008) reported that *Caladenia montana* displayed a strong post-fire flowering response following the 2003 bushfire (in the ACT).	**Targeted surveys appropriate** Given the literature shows *Caladenia montana* responds well to fire, if the species occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Bondo and Snowy Mountains) (Table 4-13).
Calotis glandulosa	Mauve Burr-daisy	V	V	Species	Yes			X	679, 1196 & 1224	Currently there is no literature on this species response to fire. The common species *Calotis lappulacea* (Yellow Burr-daisy) has been observed to resprout after a burn was applied (Watson 2005; Morris *et al.* 2021).	**Targeted surveys appropriate** Given the similar growth forms and life cycle of the two species it could be assumed *Calotis glandulosa* would behave in a similar way to *Calotis lappulacea* post fire. Therefore, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13) and threatened flora parallel field traverse survey effort (Snowy Mountains) (Table 4-14).
Calotis pubescens	Max Mueller's Burr-daisy	E	-	Species	No			X	1224	Currently there is no literature on this species response to fire. The common species *Calotis lappulacea* (Yellow Burr-daisy) has been observed to resprout after a burn was applied (Watson 2005; Morris *et al.* 2021).	**Targeted surveys appropriate** Given the similar growth forms and life cycle of the two species it could be assumed *Calotis pubescens* would behave in a similar way to *Calotis lappulacea* post fire. Therefore, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Cullen parvum	Small Scurf-pea	E	-	Species	-		X		277	Grassland communities require some level of disturbance, whether from light grazing or fire, to maintain diversity and prevent a monoculture of grass species (Hobbs and Huenneke 1992). There is currently no research on the species response to fire, however similar genus in the Fabaceae family have been widely documented to quickly resprout post fire (Kubiak 2009).	**Targeted surveys appropriate** Given the similarity between *Cullen parvum* and other genus with similar growth forms and life cycle in the Fabaceae, it could be assumed *Cullen parvum* would behave in a similar way to Glycine and *Desmodium* species post fire. Therefore, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
											such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Discaria nitida	Leafy Anchor Plant	V	-	Species	-			X	679	*Discaria nitida* is mostly found in areas that are rarely burnt. The species is considered to be highly fire sensitive and will die with limited post fire recruitment (DPE 2022).	**Targeted surveys NOT appropriate** Prior to the 2019-2020 bushfire, the last known fires in the area of potential habitat were 1964-65 and 1938-39. Given *Discaria nitida* is highly sensitive to fire, the species is unlikely to occur in the project footprint given the history of fires. A conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Assumed presence within suitable habitats.
Eucalyptus aggregata	Black Gum	V	V	Species	-		X		N/A	Whilst there isn't any current literature on *Eucalyptus aggregata* response to fire, most eucalypts persist through fire due to adaptive traits, including epicormic sprouting after fire (Crisp *et al.*, 2011). Inappropriate fire regimes may stunt the growth of mature trees and kill juveniles.	**Targeted surveys appropriate** Given the *Eucalyptus* genera is known to have many adaptive traits to deal with fire, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes and Snowy Mountains) (Table 4-13) and threatened flora parallel field traverse survey effort (Snowy Mountains) (Table 4-14).
Eucalyptus alligatrix subsp. alligatrix	-	V	V	Species	Yes		X		287 & 290	*Eucalyptus alligatrix subsp. alligatrix* is known to regenerate well post fire. Populations that were burnt in the 2009 Black Saturday fire were noted to be regenerating both vegetatively and from seed (Tolsma et al. 2012).	**Targeted surveys appropriate** Given *Eucalyptus alligatrix subsp. alligatrix* is known to have many adaptive traits to deal with fire, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Eucalyptus cannonii	Capertree Stringybark	V	-	Species	-		X		290	*Eucalyptus cannonii* is known to regenerate well post fire, with mature trees resprouting from epicormic buds post burn. Inappropriate fire regimes may stunt the growth of mature trees and kill juveniles (Benson & McDougall, 1998).	**Targeted surveys appropriate** Given the *Eucalyptus* genera is known to have many adaptive traits to deal with fire, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Eucalyptus robertsonii subsp. hemisphaerica	Robertson's Peppermint	V	V	Species	Yes		X		352	*Eucalyptus robertsonii subsp haemsphaerica* is known to regenerate well post fire, with mature trees resprouting from epicormic buds post burn. Inappropriate fire regimes may stunt the growth of mature trees and kill juveniles (Benson & McDougall, 1998).	**Targeted surveys appropriate** Given the *Eucalyptus* genera is known to have many adaptive traits to deal with fire, if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
Euphrasia arguta	-	CE	CE	Species	Yes		X		277, 287 & 290	There is limited literature on *Euphrasia arguata's* response to fire. Observations of other species in the *Euphrasia* genus showed that species often require open areas for regeneration and recruitment and were found in areas that were kept open due to disturbance (Moritz and Bickerton 2010).	**Targeted surveys appropriate** Given the literature shows *Euphrasia* species to typically respond well to disturbance, and known populations are still present post the 2019-2020 bushfires, if the species occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Euphrasia scabra	Rough Eyebright	E	-	Species	Yes			X	679 & 939	There is limited literature on *Euphrasia scabra*'s response to fire. Observations of other species in the *Euphrasia* genus showed that species often require open areas for regeneration and recruitment and were found in areas that were kept open due to disturbance (Moritz and Bickerton 2010). The Saving Our Species report for *Euphrasia scabra* noted that post the 2019-2020 bushfires, known populations declined, however, were still present when surveyed (DPE 2020a).	**Targeted surveys appropriate** Given the literature shows *Euphrasia* species to typically respond well to disturbance, and known populations are still present post the 2019-2020 bushfires, if the species occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Glycine latrobeana	Clover Glycine	CE	V	Species	Yes			X	1224	The current Nation Recovery Plan (Carter and Sutter 2010) for *Glycine latrobeana* suggests the species requires disturbance (including fire) for germination and is known to be abundant post fire.	**Targeted surveys appropriate** Given the recovery plan suggests that *Glycine latrobeana* responds well to fire, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Grevillea wilkinsonii	Tumut Grevillea	E	-	Species	Yes		X		301	Currently there is no literature on *Grevillea wilkonsonii* response to fire, but there are some studies involving the genus. Tozer (1995) found that although some Grevillea species have their seed dormancy broken by fire events, the results are generally Grevillea varied species.	**Targeted surveys NOT appropriate** Given the lack of literature and the general varied response of Grevillea to bushfire events, a conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Assumed presence within suitable habitats.
Haloragis exalata subsp. exalata	Square Raspwort	V	V	S+pecies	No			X	638	There is limited literature on *Halorgis exalata subsp. exalata's* response to fire, however the species appears to be a post-disturbance coloniser. This is based on observation made 10 months after the 2003 Kosciuszko wildfires. Thousands of *Haloragis exalta subsp. exalata* seedlings were found extending up slopes above roads near the dam in burnt forest, however on an unburnt powerline easement there was no apparent change in plant numbers (Miles & Cameron 2007).	**Targeted surveys appropriate** Given research shows *Haloragis exalata subsp. exalata* sprouts abundantly post disturbance, including fire, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, targeted surveys are considered an appropriate method for confirming species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Irenepharsus magicus	Elusive Cress	E	-	Species	Yes			X	638	There is extremely limited literature on the life history traits or response to fire of *Irenepharsus magicus. However, there was a* record found of the species in a rocky outcrop in eastern Victoria after the 2003 alpine fires, suggesting that it does occur post fire *(DPE 2022b).* Other threatened species in the genus, e.g. *Irenepharsus trypherus,* have been shown to be killed by fire but to resprout from a stored seed bank (DEC 2005).	**Targeted surveys appropriate** While the species is extremely data deficient, previous species records post fire and the life history traits of closely related species suggest that it would likely to resprout post fire. Given time since fire, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would be present post bushfire. As such, the surveys targeting this species are

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
											considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Leucochrysum albicans var. *tricolor*	Hoary Sunray	-	E	Species	-		X	X	268, 352, 679, 953 & 1196	Grassland communities require some level of disturbance, whether from light grazing or fire, to maintain diversity and prevent a monoculture of grass species (Hobbs and Huenneke 1992). Frequent (7-11 years) fires are considered ideal for the conservation of *Leucochrysum albicans* var. *tricolor,* however, how fire intensity impacts the species is unknown (Sinclair 2010).	**Targeted surveys appropriate** Given the species life cycle requires some disturbance (in the form of frequent fires), if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Bondo, Inland Slopes and Snowy Mountains) (Table 4-13) and threatened flora parallel field traverse survey effort (Inland Slopes and Snowy Mountains) (Table 4-14).
Persoonia marginata	Clandulla Geebug	V	V	Species	-		X		287	The response of *Persoonia marginata* to fire appears to be variable, with some mature individuals resprouting while others have been killed by the fire (DEWHA 2008). While inappropriate fire regimes appear to be a threat to the species, some fire in the landscape appears to be an important trigger for seed germination, in line with other Proteaceae species (NSW NPWS 2000).	**Targeted surveys appropriate** Given adaptations to fire noted if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Prasophyllum bagoense	Bago Leek Orchid	CE	CE	Species	Yes			X	1196 & 1224	There is no current literature on *Prasophyllum bagoense* response to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire.	**Targeted surveys appropriate** Given the literature shows *Prasophyllum* spp. respond well to fire, if *Prasophyllum bagoense* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** No targeted surveys conducted (Table 4-13).
Prasophyllum innubum	Brandy Marys Leek-orchid	CE	CE	Species	Yes			X	1224	There is no current literature on *Prasophyllum innubum* response to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire.	**Targeted surveys appropriate** Given the literature shows *Prasophyllum* spp. respond well to fire, if *Prasophyllum innubum* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Prasophyllum keltonii	Kelton's Leek Orchid	CE	CE	Species	Yes			X	1196	There is no current literature on *Prasophyllum sp.* keltoniiresponse to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire.	**Targeted surveys appropriate** Given the literature shows *Prasophyllum* spp. respond well to fire, if *Prasophyllum keltonii* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
Prasophyllum petilum	Tarengo Leek Orchid	E	E	Species	-		X		277	There is no current literature on *Prasophyllum sp. Petilum* response to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire.	**Targeted surveys appropriate** Given the literature shows *Prasophyllum* spp. Respond well to fire, if *Prasophyllum petilum* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Prasophyllum sp. Wybong	-	-	CE	Species	Yes		X		277	There is no current literature on *Prasophyllum sp. Wybong* response to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire.	**Targeted surveys appropriate** Given the literature shows *Prasophyllum* spp. Respond well to fire, if *Prasophyllum sp. Wybong* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13) and threatened flora parallel field traverse survey effort (Bondo and Inland Slopes) (Table 4-14).
Pterostylis alpina	Alpine Greenhood	V	-	Species	No			X	679 & 1196	There is limited information on *Pterostylis alpina* response to high intensity fires. The *Pterostylis* genera is variable in its response to fire, some species are fire sensitive while others are neutral (Duncan 2012).	**Targeted surveys NOT appropriate** Given the limited knowledge of *Pterostylis alpina* response to fire, and the known negative or neutral response of other species (Duncan 2012), a conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Assumed presence within suitable habitats.
Pterostylis foliata	Slender Greenhood	V	-	Species	No			X	638, 679 & 1196	There is limited information on *Pterostylis foliata* response to high intensity fires. The *Pterostylis* genera is variable in its response to fire, some species are fire sensitive while others are neutral (Duncan 2012).	**Targeted surveys NOT appropriate** Given the limited knowledge of *Pterostylis foliata* response to fire, and the known negative or neutral response of other species (Duncan 2012), a conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Assumed presence within suitable habitats.
Pterostylis oreophila	Blue-tongued Greenhood	CE	CE	Species	Yes			X	939	There is limited information on *Pterostylis oreophila* response to high intensity fires. The *Pterostylis* genera is variable in its response to fire, some species are fire sensitive while others are neutral (Duncan 2012).	**Targeted surveys NOT appropriate** Given the limited knowledge of *Pterostylis oreophila* response to fire, and the known negative or neutral response of other species (Duncan 2012), a conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Assumed presence within suitable habitats.
Pultenaea humilis	Dwarf Bush-pea	V	-	Species	-		X		268, 287, 290 & 306	There is currently no literature on how P*ultenaea humilis* responds to bushfires. Another threatened species in the *Pultenaea* genera, *Pultenaea weindorferi* (Swamp Bush-pea) is known to be fire sensitive, with bushfires killing adults and recruitment occurring from a persistent soil stored seed bank. Seed germination will not occur in the absence of fire as the hard-coated seed required heat to break seed dormancy, as is typical of species within Fabaceae. It is assumed that *Pultenaea humilis* would have a similar fire response (NSW OEH 2022b).	**Targeted surveys appropriate** Given the literature shows *Pultenaea* spp. requires fire as part of its life history, if P*ultenaea humilis* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).
Rutidosis leiolepis	Monaro Golden Daisy	V	V	Species	-			X	1224	Generally, Australian grassland species are well adapted to fire, particularly if they occur after seed set, however there is currently no	**Targeted surveys appropriate**

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
										literature on the response of *Rutidosis leiolepis* to fire. *Rutidosis leptorrhynchoides* (Button Wrinklewort), another species in the genus, requires burning every 2-5 years in areas of high productivity to prevent increased biomass of other native and introduced grasses and reduce the risk of being smothered or outcompeted. However, it is believed that high frequency or high intensity fires and fires during the flowering period may prove detrimental as seeds are only viable in the soil for up to 18 months (DSE 2012a)	Given the literature shows *Rutidiosis* spp. Requires fire as part of its life history, if *Rutidosis leiolepis* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Senecio garlandii	Woolly Ragwort	V	-	Species	No		X		287 & 290	A study of the effect of fire on a large population of *Senecio garlandii* showed that while 95% of the adult population was killed, significant and vigorous resprouting from seed was noted post fire. Many of the seedlings produced flowers two years post fire, with some resprouting noted from mature plants that were not killed (Burrows 1995).	**Targeted surveys appropriate** Given the limited knowledge *Senecio garlandii* response to fire, a conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Bondo and Inland Slopes) (Table 4-13) and threatened flora parallel field traverse survey effort (Inland Slopes) (Table 4-14).
Swainsona recta	Small Purple-pea	E	E	Species	-		X		268 & 277	Research indicates that while the larger above ground biomass of *Swainsona recta* may be burnt by fire, individuals are not frequently killed in this event. The species favours periodic burning, which reduces build-up of dead plant matter and reduces competition with native grassland species such as Kangaroo Grass. Fire is also an important factor in seedling regeneration, as dormancy of the hard-coated seed is broken by fire (OEH 2012).	**Targeted surveys appropriate** Given the literature shows *Swainsonia recta* requires fire as part of its life history, if the species occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13) and threatened flora parallel field traverse survey effort (Bondo and Inland Slopes) (Table 4-14).
Swainsona sericea	Silky Swainson-pea	V	-	Species	-		X		277, 280 & 290	Like other Swainsona species, *Swainsona sericea* can persist during adverse conditions as a soil-stored seed, requiring cool-season rains or fire events to release dormancy (NSW Scientific Committee 2008).	**Targeted surveys appropriate** Given the literature shows *Swainsonia sericea* requires fire as part of its life history, if the species occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13) and threatened flora parallel field traverse survey effort (Bondo, Inland Slopes and Snowy Mountains) (Table 4-14).
Thelymitra alpicola	Alpine Sun-orchid	V	-	Species	No			X	939	There is no current literature on *Thelymitra alpicola's* response to bushfire. However, many species in the *Thelymitra* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire.	**Targeted surveys appropriate** Given the literature shows *Thelymitra* spp. Respond well to fire, if *Thelymitra alpicola* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Thesium australe	Austral Toadflax	V	V	Species	No	X		X	679, 1196 & 1224	There is very little literature on the impacts of fire on *Thesium australe*. Cohn (2004) observed that *Thesium australe* occurred in lower densities in recently burned areas when compared to long unburned areas, suggesting that this species may not respond well to fire.	**Targeted surveys NOT appropriate** According to the results of Cohn's (2004) study, this species has been recorded at lower densities in recently burned areas when compared to long unburned areas. Therefore, a conservative

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	Assessment considerations
						BON[1]	INL[2]	SNO[3]			
											approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment approach:** Assumed presence within suitable habitats.
Xerochrysum palustre	Swamp Everlasting	-	V	Species	-			X	679 & 939	There is limited literature on *Xerochrysum palustre* response to fire, what is known is that adult plants usually resprout from an underground rootstock following fire (DCCEEW 2022b). This is further exhibited by Walsh and McDougall (2004), which showed the species was relatively unaffected by the 2003 bushfire in Kosciuszko National Park.	**Targeted surveys appropriate** Given the findings of Walsh and McDougall (2004), this species has been observed to be relatively unaffected by fire, therefore the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Snowy Mountains) (Table 4-13).
Zieria obcordata	Granite Zieria	E	E	Species	Yes		X		268, 280 & 287	There is little literature on the impacts of fire on *Zieria obcordata,* however a similar species *Zieria involcruata* is a fire sensitive species known to resprout from seed post fire. While disturbance, and particularly fire appears to be an important trigger for seed germination, inappropriate fire regimes, including fires that are too high intensity or too frequent can destroy both seedlings and the seedbank (NSW NPWS 1998).	**Targeted surveys appropriate** Given the literature shows *Zieria* spp. requires fire for seed germination, it is likely that if *Zieria obcordata* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – threatened flora two-phase grid-based systematic effort (Inland Slopes) (Table 4-13).

Table A15- 2: Candidate threatened fauna species within severely burnt sites.

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
Birds													
Burhinus grallarius	Bush Stone-curlew	E	-	Species	-		X		277, 280, 287, 290 & 352	Inappropriate fire regimes over time and/or a single fire event have the potential to reduce the suitability of habitat for this species. Woody debris and leaf litter used by the species for foraging and camouflage is burnt in fires and can take time to build up to a suitable level. Bushfire affected areas would still be suitable for nesting sites, as they are frequently located in relatively open areas where ground cover is extremely low. The presence of fallen timber however is critical to the selection of day roost sites. Chicks that cannot yet fly rely heavily on camouflage for protection, so in bushfire affected areas they would be vulnerable to predation (DEC 2006; Gates 2001).	Fallen/standing dead timber including logs	Bush stone-curlew feed at night on insects and small vertebrates including frogs, lizards, snakes and mice.	**Targeted surveys appropriate** Previous studies have shown *Burhinus grallarius* returning to use areas previously burnt by fire due to increased foraging and nesting habitat opportunities (Gates & Paton 2005). Given time since fire and the presence of fallen timber confirmed by field survey, it is likely that appropriate habitat would be found within the previously severely burnt areas. Given the above, it is likely that targeted surveys are suitable for detecting the species presence/absence. **Assessment approach:** Targeted surveys – diurnal bird surveys (Table 4-17).
Callocephalon fimbriatum	Gang-gang Cockatoo	V	E	Dual	-	X	X	X	268, 277, 280, 285, 287, 290, 295, 297, 299, 300, 306, 314,	Loyn (1997) found that large hole-nesters (hollow nesters) declined after fire (to less than 30% of pre-fire levels), remained scarce for two years, and then increased to pre-fire levels in the third year. This	**Breeding:** Hollow bearing trees; Eucalypt tree species	Gang-gang Cockatoos feed on seeds obtained in trees and shrubs, mostly from eucalypts and wattles. They may also eat some	**Targeted surveys NOT appropriate** According to Loyn's (1997) study, large hollow nesting birds appear to recover more slowly from large scale bushfire

[4] Bondo IBRA subregion
[5] Inland Slopes IBRA subregion
[6] Snowy Mountain IBRA subregion

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
									352, 638, 679, 953 & 1196	increase was evident for Crimson Rosella and Yellow-tailed Black Cockatoo, but not for Gang-gang Cockatoo which remained uncommon.	with hollows greater than 9 cm diameter.	seeds of introduced trees and shrubs around human settlements in winter, and insect larvae (galls, sawflies).	events, with the Gang-gang Cockatoo in particular remaining uncommon after three years. Despite this, the Gang-gang Cockatoo was recorded on several occasions within severely burned PCTs within the Project Footprint. This would suggest that the species has returned to burnt areas. Regardless, a precautionary approach has been adopted and species presence assumed. **Assessment approach**: Hollow-bearing tree survey and mapping. Assumed presence within suitable habitats.
Calyptorhynchus lathami	Glossy Black Cockatoo	V	-	Dual	-	X	X		290	Loyn (1997) found that large hole-nesters (hollow nesters) declined after fire (to less than 30% of pre-fire levels), remained scarce for two years, and then increased to pre-fire levels in the third year. This increase was evident for Crimson Rosella and Yellow-tailed Black Cockatoo, but not for Gang-gang Cockatoo which remained uncommon. **Impact of fire:** Inappropriate fire regimes and excessively frequent fire eliminate sheoaks from areas, prevents the development of mature sheoak stands, and destroys nest trees are listed as key threats to this species (TBDC). Allocasuarinas, especially the preferred *Allocasuarina verticillata,* generally don't resprout post burn. Instead, the serotinous seed bank germinates vigorously post fire. The result of this is a 5–10-year gap before seedlings start to fruit. Observations of the more diet-selective sub species *Calyptorhynchus lathami halmaturinus* on Kangaroo Island indicated that they avoid burnt areas for greater than 10 years. While the mainland species is known to have a slightly more generalised diet, a loss of allocasuarinas would almost certainly stymie return post- fire (Delzoppo et al., 2021).	**Foraging:** Presence of Allocasuarina and casuarina species **Breeding:** Hollow bearing trees; Living or dead tree with hollows greater than 15cm diameter and greater than 8m above ground.	Glossy Black-cockatoos feed almost exclusively on the seeds of *Allocasuarina* species. Occasionally they may eat insect larvae and have been observed feeding on seeds from some eucalypts, angophoras, acacias and hakeas.	**Targeted surveys NOT appropriate** According to Loyn's (1997) study, large hollow nesting birds appear to recover more slowly from large scale bushfire events and remain scarce for two years following intensive bushfire. The diurnal bird surveys for the Project were undertaken during the second and third year following the bushfire. Considering the above, it is possible that the Glossy Black Cockatoo could have occurred in the Project area prior to the 2019/2020 bushfires and may return to the area during the next few years. However, considering the time frame required for *Casuarinaceae* seedlings to grow to maturity, it is unlikely this area would provide adequate foraging resources in this time. Hence, targeted surveys are unlikely to be appropriate at this time. **Assessment approach**: Hollow-bearing tree survey and mapping. Assumed presence within suitable habitats.
Haliaeetus leucogaster	White-bellied Sea Eagle	V	-	Dual (breeding)	-	X	X	X	268, 277, 280, 285, 287, 290, 295, 297, 299, 300, 301, 306, 314, 352, 638, 679, 939, 953, 1196 & 1224	There is little data on the behaviour of diurnal raptors after fire. Significant bushfires may impact breeding indirectly, including the loss of large eucalyptus trees required to support stick nest building, and through the direct impact of heat and smoke on stick nests, nestlings and adults (Larkin et. al., 2020).	**Foraging:** Waterbodies; Within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines **Breeding:** Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large	The White-bellied Sea-Eagle feeds opportunistically on a variety of fish, birds, reptiles, mammals and crustaceans, and on carrion and offal.	**Targeted surveys appropriate** While Loyn (1997) did not consider carnivores due to lack of data, it is considered that the Little Eagle like many other carnivores would recolonise given adequate resources. As this species is known to be highly mobile, their presence in an area is unlikely to be related to ability to survive the initial fire, and instead influenced by resource and breeding habitat availability post fire. The diurnal

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
											dams or creeks, wetlands and coastlines.		bird surveys for the Project were undertaken during the second and third year following the 2019/2020 bushfire. Given that the species may utilise dead trees, it likely that habitat and foraging requirements are met post fire in this area, with foraging resources potentially increasing post fire. Given the above, it is likely that the above surveys are suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - diurnal bird surveys; mapping of suitable canopy nest (Table 4-17).
Hieraaetus morphnoides	Little Eagle	V	-	Dual (breeding)	-	X	X	X	268, 277, 280, 285, 287, 290, 295, 297, 299, 300, 301, 306, 314, 352, 638, 679, 939, 953, 1196 & 1224	There is little data on the behaviour of diurnal raptors after fire. Significant bushfires may impact breeding indirectly, including the loss of large eucalyptus trees required to support stick nest building, and through the direct impact of heat and smoke on stick nests, nestlings and adults (Larkin et. al., 2020).	**Breeding:** Nest trees - live (occasionally dead) large old trees within vegetation.	Preys on birds, reptiles and mammals, occasionally adding large insects and carrion.	**Targeted surveys appropriate** While Loyn (1997) did not consider carnivores due to lack of data, it is considered that the Little Eagle like many other carnivores would recolonise given adequate resources. As this species is known to be highly mobile, their presence in an area is unlikely to be related to ability to survive the initial fire, and instead influenced by resource and breeding habitat availability post fire. The diurnal bird surveys for the Project were undertaken during the second and third year following the 2019/2020 bushfire. Given that the species may utilise dead trees, it likely that habitat and foraging requirements are met post fire in this area. Given the above, it is likely that the above surveys are suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - diurnal bird surveys; mapping of suitable canopy nests (Table 4-17).
Lophoictinia isura	Square-tailed Kite	V	-	Dual (Breeding)	-	X	X		268, 277, 280, 287, 290, 352 & 953	There is little data on the behaviour of diurnal raptors after fire. Significant bushfires may impact breeding indirectly, including the loss of large eucalyptus trees required to support stick nest building, and through the direct impact of heat and smoke on stick nests, nestlings and adults (Larkin et. al., 2020).	**Breeding:** Nest trees.	The Square-tailed Kite is a specialist hunter of passerines, especially honeyeaters, and most particularly nestlings, and insects in the tree canopy, picking most prey items from the outer foliage.	**Targeted surveys appropriate** While Loyn (1997) did not consider carnivores due to lack of data, it is considered that the Little Eagle like many other carnivores would recolonise given adequate resources. As this species is known to be highly mobile, their presence in an area is unlikely to be related to ability to survive the initial fire, and instead influenced by resource and breeding habitat availability post fire. The diurnal bird surveys for the Project were undertaken during the second and third year following the 2019/2020 bushfire. Given that the species may utilise dead trees, it likely that habitat and foraging requirements are met post fire in this area.

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
													Given the above, it is likely that the above surveys are suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - diurnal bird surveys; mapping of suitable canopy nests (Table 4-17).
Ninox connivens	Barking Owl	V	-	Dual (Breeding)	-	X	X	X	268, 277, 280, 287, 290, 295, 314, 352, 638 & 953	Much like the Powerful Owl and Sooty Owl, the Barking Owl prefers relatively dense canopy cover for roosting/resting (Kavanagh et al. 1995b). Kavanagh (et al. 1995b) have observed that owls such as the Powerful Owl and the Sooty Owl appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations, this is likely due to their preference for dense canopy cover.	**Breeding:** Hollow bearing trees; Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground.	Preferentially hunts small arboreal mammals such as Squirrel Gliders and Common Ringtail Possums, but when loss of tree hollows decreases these prey populations the owls become more reliant on birds, invertebrates and terrestrial mammals such as rodents and rabbits.	**Targeted surveys NOT appropriate** Much like the Powerful Owl and Sooty Owl, the Barking Owl prefers relatively dense canopy cover for roosting/resting (Kavanagh et al. 1995b). Kavanagh (et al. 1995b) have observed that owls such as the Powerful Owl and the Sooty Owl appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations, likely due to their preference for dense canopy cover. This species was heard calling during targeted surveys adjacent to severely burned areas in the Snowy Mountains IBRA subregion, however there were no sightings in severely burnt areas within the project footprint. Given the above, a precautionary principle of assumed presence has been applied to these species in areas where breeding habitat may have occurred pre-fire. **Assessment Approach:** Hollow-bearing tree survey and mapping. Assumed presence within suitable habitats.
Ninox strenua	Powerful Owl	V	-	Dual (Breeding)	-	X	X	X	287, 290, 295, 297, 300, 314, 352, 638 & 953	The Powerful Owl and the Sooty Owl appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations (Kavanagh 1997). However, foraging habitat for both species may be greatly enhanced in some environments by infrequent wildfires that re-set patterns of understorey succession, thus providing good habitat for several important prey species in the medium term (10-40 years post-wildfire) (Kavanagh 1997).	**Breeding:** Hollow bearing trees; Living or dead trees with hollow greater than 20cm diameter.	The main prey items are medium-sized arboreal marsupials, particularly the Greater Glider, Common Ringtail Possum and Sugar Glider.	**Targeted surveys NOT appropriate** Kavanagh (et al. 1995b) have observed that owls such as the Powerful Owl and the Sooty Owl appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations. Given this, a conservative approach has been adopted and species presence has been assumed within severely burnt habitats. **Assessment Approach:** Hollow-bearing tree survey and mapping. Species presence assumed within suitable habitats.
Petroica rodinogaster	Pink Robin	V	-	Species	-	X	X	X	299, 300, 638, 679, 953 & 1196	Loyn (1997) found that damp-ground or understorey insectivores and bark foragers showed negligible changes over time (p : 0.80 and 0.90 respectively) and in some cases were observed to have increased in abundance following bushfire.	Nil.	Pink Robins mainly forage on the ground for prey. Main dietary items are insects and spiders.	**Targeted surveys appropriate** According to Loyn's (1997) study, ground or understorey insectivore species such as *Petroica rodinogaster* are likely to have recovered quickly from the 2019-2020 bushfire. Considering Loyn's (1997) findings, if the species did occur within the severely burned PCTs in the project footprint prior

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
													to the 2019-2020 bushfire, it is reasonable to assume that they would have persisted post bushfire given their observed response to bushfires. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - diurnal bird surveys (Table 4-17).
Polytelis swainsonii	Superb Parrot	V	V	Dual	-		X		277, 280 & 352	Loyn (1997) found that large hole-nesters (hollow nesters) declined after fire (to less than 30% of pre-fire levels), remained scarce for two years, and then increased to pre-fire levels in the third year. This increase was evident for Crimson Rosella and Yellow-tailed Black Cockatoo, but not for Gang-gang Cockatoo which remained uncommon.	**Breeding:** Hollow bearing trees; Living or dead *E. blakelyi, E. melliodora, E. albens, E. camaldulensis, E. acrocarpus, E. polyanthemos, E. mannifera, E. intertexta* with hollows greater than 5cm diameter; greater than 4m above ground or trees with a DBH of greater than 30cm.	Superb Parrots feed in trees, understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plants. Also eaten are fruits, berries, nectar, buds, flowers, insects and grain.	**Targeted surveys appropriate** According to Loyn's (1997) study, large hollow nesting birds appear to recover more slowly from large scale bushfire events, they remained scarce for two years following intensive bushfire. The diurnal bird surveys for the Project were undertaken during the second and third year following the bushfire. Considering the above, it is possible that the Superb Parrot could have occurred in the project footprint prior to the 2019/2020 bushfires and may return to the area during the next few years. If this is the case, the timing of the targeted surveys may be considered too early to detect this species. However, the Gang-gang Cockatoo has been recorded within severely burned PCTs within the project footprint, therefore it is reasonable to assume that the Superb Parrot may also have returned, given that other large hollow nesters have been observed within severely burned PCTs in the project footprint. Based on this assumption, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - diurnal bird surveys (Table 4-17).
Tyto novaehollandiae	Masked Owl	V	-	Dual (Breeding)	-	X	X	X	277, 280, 287, 290, 352, 638 & 953	The Masked Owl displays a stronger association with forest that has been burnt more frequently (Kavanagh et al. 1995b). This species appears to forage near ecotones, whether "internal" (i.e. at the boundary of forests of different structural composition) or "external" (i.e. at the forest edge). The mosaic nature of burnt-unburnt patches in the landscape after fire contributes to structural diversity in forest stands which appears to improve foraging opportunities for the Masked Owl.	**Breeding:** Hollow bearing trees; Living or dead trees with hollows greater than 20cm diameter.	The typical diet consists of tree-dwelling and ground mammals, especially rats.	**Targeted surveys appropriate** Given the observations of Kavanagh (et al. 1995b), Masked Owls appear to respond better than some other species of owl to the impacts of wildfire. This species response to wildfire impacts can be somewhat attributed to its hunting behaviours, they are often found hunting along the edges of forests, including roadsides. Many prey species for this species have been recorded during surveys, including gliders, rats and other arboreal and ground mammals. Thus, the ability for this species to persist in the subject area would depend on the availability of breeding habitat. A precautionary

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
													approach of assumed presence has still been applied to areas where breeding habitat is considered to have been severely damaged by the fires. **Assessment Approach:** Targeted surveys - diurnal bird surveys; stagwatching; nocturnal call playback; spotlighting (Table 4-17).
Tyto tenebricosa	Sooty Owl	V	-	Dual (Breeding)	Yes (Breeding)	X		X	638	The Powerful Owl and the Sooty Owl appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations (Kavanagh 1997). However, foraging habitat for both species may be greatly enhanced in some environments by infrequent wildfires that re-set patterns of understorey succession, thus providing good habitat for several important prey species in the medium term (10-40 years post-wildfire) (Kavanagh 1997).	**Breeding:** Caves; Caves or cliff lines/ledges| Hollow bearing trees; Living or dead trees with hollows greater than 20cm diameter.	Main prey are small ground mammals or tree-dwelling mammals such as the Common Ringtail Possum and Sugar Glider.	**Targeted surveys NOT appropriate** Kavanagh (et al. 1995b) have observed that owls such as the Powerful Owl and the Sooty Owl appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations. Given the above, a precautionary principle of assumed presence has been applied to these species in areas where breeding habitat may have occurred pre-fire. **Assessment Approach:** Hollow-bearing tree survey and mapping. Species presence assumed within suitable habitats.
Mammals													
Cercartetus nanus	Eastern Pygmy-possum	V	-	Species	-	X	X	X	268, 277, 280, 285, 287, 290, 295, 297, 299, 300, 306, 314, 352, 638, 953 & 1196	Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire (Lindenmayer et al 2022). Possums are particularly more at risk because they are less mobile than gliders which significantly limits their capability to escape wildfire. However, the species has been known to recolonise burnt areas driven by post-fire flowering flush of their food of choice, especially Callistemons and Eucalypts (Tulloch & Dickman, 2006).	Nil.	Feeds largely on nectar and pollen collected from banksias, eucalypts and bottlebrushes. When flowers are scarce, they also eat fruit, seeds and insects.	**Targeted surveys appropriate** Given the observations of Lindenmayer (et al 2022), hollow-dependant arboreal mammals such as possums have been observed to respond poorly to wildfire. However, given time since fire it is likely that foraging resources are regenerating in the area, which is linked positively to possible presence on site. Two Eastern Pygmy Possums were also recorded in close proximity to severely burned areas within the Snowy Mountains IBRA subregion (NSW DPE 2020b). Based on this assumption, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - remote cameras; hair tubes (Table 4-17).
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	Species	Yes (Breeding)		X		277	Due to the species tendency to congregate and roost in shallow caves, mortality rates due to fire are likely to be high. It is estimated that almost 30% of the Large-eared Pied Bat habitat was affected during the 2019/20 fires, however the longer-term impacts of fire frequency and intensity on the species are unknown (Legge et. al., 2021). The species is not thought to disperse widely, due to shorter broader wings than comparable	**Breeding and Roosting:** Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	This species forages for small, flying insects just below the forest canopy and in moist drainage gullies.	**Targeted surveys appropriate** Potential roost habitat for this species largely occurs outside of areas impacted by the 2019/20 bushfires. There is a good likelihood of the species being present in the project footprint and detected using targeted survey methods, given the species tendency to forage in gullies and wetter areas that would recover more quickly.

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
										microbat species, although there is a lack of research on this area. Immediately post fire, foraging resources may be impacted through changes in vegetation composition and structure, however this species preferential foraging habitat is forest edges and wet gullies which are likely to recover faster from fire (Williams & Bruce 2018; DERM 2011).			**Assessment Approach:** Targeted surveys - acoustic microbat surveys, microbat harp trapping (Table 4-17).
Mastacomys fuscus	Broad-toothed Rat	V	V	Species	-	X		X	679 & 1224	While high intensity fires are likely to immediately impact population of the Broad-toothed rat through direct mortality and loss of resources, changes to vegetation communities (i.e., loss of sphagnum and increase of sedgeland) may increase population size post fire. (McDougall and Broome 2007; Macdonald 2009).	Nil.	The Broad-toothed Rat feeds solely on greenery such as grass and sedge stems, supplemented by seeds and moss spore cases.	**Targeted surveys appropriate** Previous studies have shown persistence of the Broad-toothed Rat in unburnt habitat, and good dispersion and recolonisation post high intensity fire (Carey et al. 2003). If this species was present in the project footprint pre 2019/2020 bushfires, it is reasonable to assume that it would have persisted post bushfire. As such, the surveys targeting this species are considered to be suitable for detecting the species presence/absence. **Assessment Approach:** Targeted surveys - remote cameras; hair tubes (Table 4-17).
Miniopterus orianae oceanensis	Large Bent-winged Bat	V	-	Dual	Yes (Breeding)	X	X		277, 280, 285, 290, 295, 297, 299, 300, 306, 352, 638, 679, 939, 953 & 1196	Jemison et al (2012) found that microbats have varied responses to bushfire depending on the species of bat and their differing ecology and biology. Jemison (2012) observed that the Large Bent-winged Bat generally responded poorly to fire, with “markedly lower numbers and activity levels of Eastern Bent-wing Bats in the severely burnt area…to pre-fire surveys”. This is believed to be due to this species’ flying/foraging behaviour.	**Breeding:** Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500.	Hunt in forested areas, catching moths and other flying insects above the tree tops.	**Targeted surveys not appropriate** Jemison (2012) observed that Large Bent-winged Bat generally responded poorly to fire, with markedly lower numbers and activity levels than that of Eastern Bent-wing Bats in the severely burnt areas compared to pre-fire surveys. This is believed to be due to the species’ flying/foraging behaviour. This species has been recorded within and near the project footprint, however no calls were recorded within severely burnt habitats. **Assessment Approach:** Assume presence within severely burnt associated PCTs situated within 100m of potential roost sites
Myotis macropus	Southern Myotis	V	-	Species	-	X	X		299 & 352	Jemison et al (2012) found that microbats have varied responses to bushfire depending on the species of bat and their differing ecology and biology. The Southern Myotis has rather specialised habitat preferences and foraging behaviour compared to other species of microbat. The Southern Myotis forage within the riparian areas of waterways and tend to roost nearby, this would likely give the Southern Myotis more protection from bushfires than other species of bats.	**Breeding:** Hollow bearing trees; Within 200 m of riparian zone| Bridges, caves or artificial structures within 200 m of riparian zone| Waterbodies; rivers, creeks, billabongs, lagoons, dams and other waterbodies on or within 200m of the site.	The Southern Myotis feeds on insects and small fish.	**Targeted surveys appropriate** Based on the general findings of Jemison et al (2012), and the known habitat and foraging preferences of the Southern Myotis, it is considered that this species is not likely to be significantly impacted by bushfires. As such, targeted surveys for this species that were undertaken within severely burned PCTs are considered sufficient to determine this species presence.

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
													Assessment Approach: Targeted surveys - acoustic microbat surveys, microbat harp trapping (Table 4-17).
Petauroides volans	Greater Glider	-	V	Species	-	X	X	X	295, 299, 300, 306, 638, 953 & 1196	Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire (Lindenmayer et al 2022). However, a recent study in Monga National Park showed that within a year post fire *Petauroides volans* were found within burnt areas, with the highest population density within low intensity burn areas. This suggests that the species may take refuge within areas of low intensity burn during bushfire, before returning to forage and breed in areas more severely burnt (May-Stubbles 2022)	**Breeding:** Hollow bearing trees.	Feeds mostly on eucalypt leaves and flowers.	**Targeted surveys appropriate** Given the observations of Lindenmayer (et al 2022), hollow-dependant arboreal mammals such as gliders have been observed to respond poorly to wildfire. Whilst hollow-bearing trees were still present within severely burnt vegetation, it is not clear to what extent these would be utilised by Greater Glider. Despite this, considerable regeneration of vegetative materials was observed within severely burnt sites indicating good availability of foraging resources. Given this, it is likely these sites would be utilised where connectivity to unburnt breeding habitats exists. Available literature indicates the species can survive severe fires by taking refuge in areas of less intense burn. Based on the results of field survey, Greater Glider were recorded within severely burned PCTs within the site. As such, targeted surveys are considered a suitable method for informing species presence. **Assessment Approach:** Targeted surveys - remote cameras; hair tubes; stagwatching; spotlighting; mapping of potential nesting habitat (Table 4-17).
Petaurus norfolcensis	Squirrel Glider	V	-	Species	-	X	X	X	268, 277, 280, 285, 287, 290, 297, 306, 314, 352 & 953	There is minimal research into direct effects of fires on the Squirrel Glider. Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire. The greatest factor influencing absence-presence post fire for the Squirrel glider appears to be loss of hollow bearing trees (Lindenmayer et al 2022).	Nil.	Squirrel Gliders diet varies seasonally and consists of *Acacia* gum, eucalypt sap, nectar, honeydew and manna, with invertebrates and pollen providing protein.	**Targeted surveys appropriate** Given the observations of Lindenmayer (et al 2022), hollow-dependant arboreal mammals such as gliders have been observed to respond poorly to wildfire. Whilst hollow-bearing trees were still present within severely burnt vegetation, it is not clear to what extent these would be utilised by Squirrel Glider. Despite this, considerable regeneration of vegetative materials (including flowering and fruiting species) was observed within severely burnt sites indicating good availability of foraging resources. Given this, it is likely these sites would be utilised where connectivity to unburnt breeding habitats exists. One Squirrel Glider was recorded in close proximity to severely burned areas within the Snowy Mountains IBRA subregion, another two were recorded within the Inland Slopes IBRA subregion. Based on the above, targeted surveys are considered

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
													a suitable method for informing species presence. **Assessment Approach:** Targeted surveys - remote cameras; hair tubes; stagwatching; spotlighting; mapping of potential nesting habitat (Table 4-17).
Petaurus australis – endangered population	Yellow-bellied Glider population on the Bago Plateau - South Eastern Highlands	E	-	Species	-			X	638	Yellow-bellied Gliders's are considered to be one of the species most heavily impacted by severe fire (Legge et al 2021). Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire (Lindenmayer et al 2022). Yellow-bellied Gliders also have a preference for alive living hollow-bearing trees, mean the death of hollow-bearing trees and consumption of hollows as a result of fire is particularly harmful to this species (DAWE 2022d). The Yellow-bellied Glider have been estimated to experienced immediate local population losses of over 75% (Legge et al 2021). A recent study of the Bago Plateau Yellow-bellied Glider population indicates a 26% reduction in the population was detected six to twelve months post-fire (ie spring / autumn 2020/21) (Bilney, et al 2022). Extinction probability at surveyed sites significantly increased within areas of high bushfire severity. However, no impact on species occupancy was detected within low burn severity areas, indicating pockets of unburnt and low-severity fire-affected forests may serve as refugia from wildfire (Bilney, et al 2022).	Hollows	A particularly important component of this species' diet is obtained through licking sap tapped from incisions made in the bark of mostly eucalypt trees. This behaviour occurs on a variety of mostly smooth-barked eucalypt trees, with only single trees within a stand of similar trees used for tapping sap.	**Targeted surveys appropriate** Given the observations of Lindenmayer (et al 2022), hollow-dependant arboreal mammals such as gliders have been observed to respond poorly to wildfire. Whilst hollow-bearing trees were still present within severely burnt vegetation, it is not clear to what extent these would be utilised by the Yellow-bellied Glider. There was considerable regrowth noted in the last 2 years, with large pockets of unburnt refugia noted within the burnt mosaic. Given this, it is likely these sites would be utilised where connectivity to unburnt breeding habitats exists. However, 12 Yellow-bellied Gliders were recorded within 500m of the project footprint within areas affected by the 2019/2020 bushfires, suggesting the species can be detected in this area and targeted surveys are appropriate Assessment Approach: Targeted surveys - remote cameras; hair tubes; stagwatching; spotlighting; mapping of potential nesting habitat (Table 4-17).
Phascogale tapoatafa	Brush-tailed Phascogale	V	-	Species	-	X		X	277, 280, 352, 638 & 953	Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire (Lindenmayer et al 2022). *Phascogale tapoatafa* appear to be particularly deterred from burnt areas, even when nesting resources are available. A small-scale study in Victoria showed that nestbox use initially rose, then declined 18 months post fire. This suggests other factors such as foraging resources or habitat fragmentation may be a significant factor in whether the species are present post fire (Terry 2016).	Nil.	Feeds mostly on arthropods but will also eat invertebrates, nectar and sometimes small vertebrates.	**Targeted surveys appropriate** Given the observations of Lindenmayer (et al 2022), hollow-dependant arboreal mammals such as the Brush-tailed Phascogale have been observed to respond poorly to wildfire. Whilst hollow-bearing trees were still present within severely burnt vegetation, it is not clear to what extent these would be utilised by the species. Despite this, insect activity and considerable regeneration of vegetative materials were observed within severely burnt sites indicating good availability of foraging resources. It is likely these sites would be utilised where connectivity to unburnt breeding habitats exists. This species is highly cryptic and is difficult to detect by means of targeted surveys.

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
													Arboreal Elliot traps are considered the most appropriate method of survey. However, these were not undertaken as a part of the assessment. **Assessment Approach:** Species presence assumed within suitable habtiats.
Phascolarctos cinereus	Koala	V	E	Species	-	X	X	X	268, 277, 280, 285, 287, 290, 295, 297, 299, 300, 301, 306, 314, 352, 638, 679, 939, 953 & 1196	Following the 2019/2020 bushfires, a study was undertaken by Phillips (et al 2021) to determine the impacts on Koala populations. While noting that the impacts of bushfire on koalas is poorly understood, Phillips (et al 2021) found that the median reduction in the occupancy rate of koalas within Phillips' (et al 2021) study area was 71% when standardized against pre-fire occupancy levels. Phillips (et al 2021) also stated that "koala survival was five times more likely in areas where forest canopies were modelled as Unburnt or Partially burnt, compared to areas where forest canopies were Fully burnt".	Nil.	Koalas feed almost exclusively on eucalypt leaves; with the species they use as their primary food source varying geographically. Within the Central and Southern Tablelands, primary food trees include *E. viminalis* (Ribbon Gum) and *E. camaldulensis* (River red gum). Secondary food tree species include *E. albens* (White box), *E. blakelyi* (Blakely's red gum) and *E. melliodora* (Yellow box).	**Targeted surveys appropriate** Given the observations of Phillips (et al 2021), PCTs that are associated with the Koala, and that have been severely burned, will be considered as habitat for Koala. Thus, a precautionary principle of assumed presence of Koalas has been applied to these areas. **Assessment Approach:** Targeted surveys - Koala Spot Assessment Technique (SAT) (Table 4-17).
Pseudomys fumeus	Smoky Mouse	CE	E	Species	Yes	X		X	638, 953 & 1196	Inappropriate fire regimes are likely to simplify the heath understorey in dry forests; depleting floristic diversity and encouraging predators, which may result in the loss of *Pseudomys* species. However, *Pseudomys fumeus* have been noted within burnt areas 1-2 years post fire, suggesting that fire does not preclude them from an environment given time for vegetation regeneration. Frequent burning can also result in low abundance of hypogeal fungi, an important food resource, and can remove hollow logs, which are often used for protection (DSE 2006)	Nil.	Seeds and fruits from leguminous shrubs form the main summer and autumn diet, with some invertebrates. Hypogeal fungi predominate in winter and spring, with some flowers, seeds and soil invertebrates.	**Targeted surveys appropriate** Research has shown that while inappropriate fire regimes impact Smoky mouse habitat and foraging resources, however, given time since fire it is possible that requirements may be met in previously burnt areas. This is supported by multiple records of the Smoky mouse found within sites previously burnt in the Dunn's Road fire (DPE 2020b). **Assessment Approach:** Targeted surveys – Elliot traps and hair tubes (Table 4-17).
Pteropus poliocephalus	Grey-headed Flying-fox	V	V	Dual	-		X		277, 287 & 290	The response of Grey-headed flying fox roosts to wildfire are still not understood well. In a recent study on the impacts of the 2019/2020 bushfires on Grey-headed flying fox, Baranowski (et al 2021) concluded that "the responses of both roosts and resources to fire severity need to be included in future work".	**Breeding**: Breeding camps.	Nectar and pollen from the flowers of eucalypts, melaleucas and banksias are the primary food for the Grey-headed Flying-fox. The species has no adaptations for withstanding food shortages and migrates in response to changes in the amount and location of flowering.	**Targeted surveys appropriate** Locality of established camps within the region include Yass, Tumut River Island, Tarcutta, and Wagga Wagga. No roost sites have been previously recorded within or near the Project site. Unlikely to have been any splinter camps within the project footprint prior to the 2019/2020 bushfires. **Assessment Approach:** Targeted surveys - mapping of potential breeding and roosting habitat (Table 4-17).
Reptiles													
Aprasia parapulchella	Pink-tailed Legless Lizard	V	V	Species	-		X		277, 280 & 290	A review of several studies on the impacts of the 2019/2020 bushfires has found that reptile species richness may be higher in burnt sites than unburnt, suggesting that	Rocky areas; Or within 50m of rocky areas / South of Grabben	Feeds on the larvae and eggs of the ants with which it shares its burrows.	**Targeted surveys appropriate** Given the findings of Price (et.al 2022), it appears that reptiles generally respond positively to burned areas, thus the

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
										burnt areas may be used preferentially for foraging by survivors and/or immigrants (Price et.al 2022).	Gullen (Cro); West of Dalton (Mur)		targeted surveys for reptiles are considered adequate to determine the presence of these species in severely burned PCTs. **Assessment Approach:** Targeted surveys – reptile searches; mapping of suitable habitat (Table 4-17).
Delma impar	Striped Legless Lizard	V	V	Species	-		X		277	A review of several studies on the impacts of the 2019/2020 bushfires has found that reptile species richness may be higher in burnt sites than unburnt, suggesting that burnt areas may be used preferentially for foraging by survivors and/or immigrants (Price et.al 2022).	Nil.	This species feeds primarily on spiders, crickets, grasshopper, lepidopteran larvae and cockroaches.	**Targeted surveys appropriate** Given the findings of Price (et.al 2022), it appears that reptiles generally respond positively to burned areas, thus the targeted surveys for reptiles are considered adequate to determine the presence of these species in severely burned PCTs. **Assessment Approach:** Targeted surveys - reptile searches; mapping of suitable habitat (Table 4-17).
Invertebrates													
Keyacris scurra	Key's Matchstick Grasshopper	E	-	Species	-		X	X	277	Following the 2019/2020 bushfires, Saunders (et al 2021) state that there is very limited understanding of bushfire impacts on Australian invertebrates to date. Saunders (et al 2021) suggests that future studies be undertaken to fill this gap in knowledge. This wingless species does not disperse far (<10m) and occupies intact native grassland habitats. A key threat to the species is disturbance of this habitat, whether by slashing or fire (DPE 2022c).	Nil.	Feeds on a large range of species including but not limited to Themeda sp., Scirpus sp., Trifolium sp. And Helichrysum sp.	**Targeted surveys appropriate** This species colonises grassland habitats. Whilst these would have been impacted by the fire, they were determined to be sufficiently recovered in accordance with the BAM guidelines. Whilst targeted surveys are considered appropriate within severely burnt sites, no targeted surveys were carried out for the species given it was only recently listed. **Assessment Approach:** Species presence assumed within suitable habitats
Amphibians													
Crinia sloanei	Sloane's Froglet	V	E	Species	-		X		9997 (waterbody)	The impacts of fire on frogs has not been well studied. The few studies that have been undertaken suggest that frogs are generally not significantly impacted by fire, they remain present in burned areas though their abundance levels are lower during the first few years following a fire (Gillespie & West 2012).	**Foraging and Breeding:** Semi-permanent/ ephemeral wet areas; Containing relatively shallow sections with submergent and emergent vegetation, or within 500 m of wet area. Swamps; Within 500 m of swamps. Waterbodies; Within 500 m of waterbody.	Diet likely consists of insects for adult frogs and algae for tadpoles.	**Targeted surveys appropriate** Given the findings of Gillespie & West (2012), frogs are generally still recorded in burned areas during the first few years following bushfire, but their abundance is lower than pre-fire numbers. Considering the above, surveys targeting frogs in severely burned areas are considered adequate to determine the presence of these species in severely burned PCTs. **Assessment Approach:** Targeted surveys – active frog searches; call playback (frogs) (Table 4-17).
Litoria booroolongensis	Booroolong Frog	E	E	Species	-	X	X		268, 277, 280, 287, 290, 295, 299, 306 & 352	The impacts of fire on frogs has not been well studied. The few studies that have been undertaken suggest that frogs are generally not significantly impacted by fire, they remain present in burned areas though their abundance levels are lower	Nil.	Booroolong frogs are generalist predators of arthropods and tadpoles are generalist benthic grazers.	**Targeted surveys appropriate** Given the findings of Gillespie & West (2012), frogs are generally still recorded in burned areas during the first few years following bushfire, but their abundance is lower than pre-fire numbers. Considering

Scientific Name	Common name	BC Act Status*	EPBC Act Status*	Credit status	SAII	IBRA sub region			Associated PCTs within severely burnt sites.	Species response to fire	TBDC habitat constraints	Diet	Assessment considerations
						BON[4]	INL[5]	SNO[6]					
										during the first few years following a fire (Gillespie & West 2012).			the above, surveys targeting frogs in severely burned areas are considered adequate to determine the presence of these species in severely burned PCTs. **Assessment Approach:** Targeted surveys – active frog searches; call playback (frogs) (Table 4-17).
Litoria castanea	Yellow-spotted Tree Frog	CE	CE	Species	Yes			X	939	The impacts of fire on frogs has not been well studied. The few studies that have been undertaken suggest that frogs are generally not significantly impacted by fire, and that they remain present in burned areas though their abundance levels are lower during the first few years following a fire (Gillespie & West 2012).	Nil.	Diet likely consists of insects for adult frogs and algae for tadpoles.	**Targeted surveys appropriate** Given the findings of Gillespie & West (2012), frogs are generally still recorded in burned areas during the first few years following bushfire, but their abundance is lower than pre-fire numbers. Considering the above, surveys targeting frogs in severely burned areas are considered adequate to determine the presence of these species in severely burned PCTs. **Assessment Approach:** Targeted surveys – active frog searches; call playback (frogs) (Table 4-17).
Pseudophryne corroboree	Southern Corroboree Frog	CE	CE	Species	Yes			X	679, 1196 & 1224	Evidence from a subalpine fire that occurred in Kosciuszko National Park during frog breeding season, shows that even though the fire burnt to near the edges of the Sphagnum bog pools, the frogs still returned the following season. Autumn fires that burn through woodland and heath surrounding breeding sites are likely to have a greater potential influence as frogs have moved further away from bogs. Extensive burning of understorey litter and grass cover in these areas, such as occurs during prescribed burns, is likely to reduce the shelter available to the frogs and make them more vulnerable to dehydration or freezing (NPWS 2001)	**Geographical** Above 1000m altitude.	Feed primarily on small black ants and other invertebrates.	**Targeted surveys appropriate** Given the findings of Gillespie & West (2012), frogs are generally still recorded in burned areas during the first few years following bushfire, but their abundance is lower than pre-fire numbers. Considering the above, surveys targeting frogs in severely burned areas are considered adequate to determine the presence of these species in severely burned PCTs. **Assessment Approach:** Targeted surveys – active frog searches; call playback (frogs) (Table 4-17).

Attachment 16. MNES likelihood of occurrence

A list of potentially occurring EPBC Act listed threatened flora and fauna species was derived for the locality from data sources including the BAM Calculator (BAM-C), NSW BioNet Atlas (ATLAS) and EPBC Act Protected Matters Search Tool (PMST). Further analysis of the likelihood of those species occurring within the subject land was undertaken in accordance with the criteria outlined in Table A16- 1. Unless otherwise stated, habitat information used to inform the assessment was obtained from Department of the Environment and Energy (DoEE) 2022b and Department of Planning, Industry and Environment (DPIE) 2022b.

The results of the likelihood of occurrence assessment are presented in Table A16- 3. Further assessment in accordance with the Commonwealth *Significant Impact Guidelines 1.1: Matters of National Environmental Significance* (Department of the Environment (DoE), 2013) is presented in Attachment 18 for all threatened species assigned a 'Known' to 'Moderate' likelihood of occurrence or transient species with a perceived risk of transmission line collision.

Table A16- 1: Likelihood of occurrence criteria

Likelihood rating	Threatened flora criteria	Threatened and migratory fauna criteria
Known	The species was observed or has been previously recorded within the project footprint.	The species was observed or has been previously recorded within the project footprint.
High	There are previous records of the species in close vicinity (within 5 km) of the project footprint and potential habitat in the project footprint. It is likely that a species inhabits the project footprint.	There are previous records of the species in close vicinity of the project footprint (within 5 km) and potential habitat in the project footprint. It is likely that a species inhabits or utilises habitat within the project footprint.
Moderate	Potential habitat for a species occurs in the project footprint. There are previous records of the species in the wider locality (within 20 km). Adequate field survey would determine if there is a 'high' or 'low' likelihood of occurrence for the species within the project footprint.	Potential habitat for a species occurs in the project footprint and the species may occasionally utilise that habitat. There are previous records of the species in the wider locality (within 20 km). Species unlikely to be wholly dependent on the habitat present within the subject land.
Low	There are no records of the species in the wider locality (within 20 km), but records may occur within the IBRA subregion, and/or there is no/marginal potential habitat in the project footprint. It is unlikely that the species inhabits the project footprint.	There are no records of the species in the wider locality (within 20 km), but records may occur within the IBRA subregion, and/or there is no/marginal potential habitat in the project footprint. It is unlikely that the species inhabits the project footprint. If present, the species would likely be a transient visitor. The project footprint may

Likelihood rating	Threatened flora criteria	Threatened and migratory fauna criteria
		contain very common habitat for this species which the species would not rely on for its on-going local existence.
Unlikely	There are no records of the species in the wider locality (20 km) or IBRA subregion and there is no potential habitat in the project footprint. The habitat within the project footprint is unsuitable for the species.	There are no records of the species in the wider locality (20 km) or IBRA subregion and there is no potential habitat in the project footprint. The habitat within the project footprint is unsuitable for the species.

The results of the likelihood of impacts assessment are presented in Table A16- 3. This assessment is based on technical expertise and the results of the information collected from the desktop searches.

Table A16- 2 Likelihood of impact criteria

Likelihood rating	Threatened flora criteria	Threatened and migratory fauna criteria
Potential impacts	Potential for impacts to species habitat where clearing is likely to occur.	Potential for transmission line strikes due to migration route or feeding zones. Potentially impacted by access tracks crossings of streams where habitat is known or has the potential to occur. Potential impacts to foraging habitat where vegetation clearing is likely to occur. Potential impacts to breeding habitat where vegetation or land features are likely to be disturbed. Potential impacts to foraging and shelter habitat where vegetation or land features are likely to be disturbed.
Unlikely impacts	The species was not located during surveys of potential habitat and there is little suitable habitat found in the areas not surveyed. Species that grow in a wide range of habitats and are not restricted to the type being impacted which is not considered limiting/important habitat. No important habitat is present within the footprint.	The species was not located during surveys of potential habitat and there is little suitable habitat found in the areas not surveyed. Species that can use a wide range of habitats and are not restricted to the type being impacted which is not considered limiting/important habitat. No important habitat is present within the footprint. The project footprint is outside the natural range of the species.

Likelihood rating	Threatened flora criteria	Threatened and migratory fauna criteria
	The project footprint is outside the natural range of the species.	
Direct/indirect impacts to species as a result of the project are highly unlikely	There is no habitat suitable for this species present	There is no habitat suitable for this species present.

Table A16- 3: Likelihood of occurrence

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
Fauna										
Amphibians										
Crinia sloanei (BAM-C, PMST, BioNet)	Sloane's Froglet	V	-	E	-	INL: 3	INL: 154	Sloane's Froglet has been recorded from widely scattered sites in the floodplains of the Murray-Darling Basin, with most records in the Darling Riverine Plains, NSW Southwestern Slopes and Riverina bioregions in New South Wales. It has not been recorded recently in the northern part of its range and has only been recorded infrequently in the southern part of its range in NSW. At several sites where records are verified by museum specimens, the species has not been subsequently detected during more recent frog surveys in the vicinity (e.g., Holbrook, Nyngan, Wagga Wagga and Tocumwal). The low number of sites, low number of recorded individuals per site, and the low proportion of records of this species in regional surveys all indicate that a moderately low number of mature individuals exist. The apparent loss from previous recorded sites and decline in recording rates indicates that this is not just a rare or uncommonly encountered species, but that there has been a reduction in population size and range. It is typically associated with periodically inundated areas in grassland, woodland, and disturbed habitats.	INL: **Moderate** – suitable habitat across a variety of locations within subregion. However, the apparent loss from previously recorded sites and decline in recording rates indicates that there has been a reduction in population size and range within south-west NSW (Inland Slopes region).	Potentially impacted by access crossings of streams.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
Heleioporus australiacus (BAM-C, PMST, BioNet)	Giant Burrowing Frog	V	-	V	-	CRO: 1	BUN: 1 CRO: 1	Found in heath, woodland, and open dry sclerophyll forest on a variety of soil types except those that are clay based. Spends more than 95% of its time in non-breeding habitat in areas up to 300 m from breeding sites. Whilst in non-breeding habitat it burrows below the soil surface or in the leaf litter. Individual frogs occupy a series of burrow sites, some of which are used repeatedly. The Giant Burrowing Frog has a generalist diet and studies to date indicate that they eat mainly invertebrates including ants, beetles, cockroaches, spiders, centipedes, and scorpions. When breeding, frogs will call from open spaces, under vegetation or rocks or from within burrows in the creek bank. Males show strong territoriality at breeding sites. This species breeds mainly in autumn but has been recorded calling throughout the year. Egg masses are foamy with an average of approximately 500-800 eggs and are laid in burrows or under vegetation in small pools. After rains, tadpoles are washed into larger pools where they complete their development in ponds or ponded areas of the creeklines. Breeding habitat of this species is generally soaks or pools within first or second order streams. They are also commonly recorded from 'hanging swamp' seepage lines and where small pools form from the collected water.	BUN: **Unlikely** – The species is considered to be coastal, and reliant on Sydney sandstone geologies. No Sydney sandstone geologies occur within the project footprint, and therefore the species has been excluded on that basis. CRO: **Low –** The species is considered to be coastal, and reliant on Sydney sandstone geologies. No Sydney sandstone geologies occur within the project footprint, and therefore the species has been excluded on that basis.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Litoria aurea (BAM-C, PMST, BioNet)	Green and Golden Bell Frog	E	-	V	-	MUR: 1	BUN: 2 MUR: 3	There are Green and Golden Bell Frog records from west to Bathurst, Tumut and the ACT region. Since 1990 there have been approximately 50 recorded locations in NSW, most of which are small, coastal, or near coastal populations. These locations occur over the species' former range; however, they are widely separated and isolated. Large populations in NSW are located around the metropolitan areas of Sydney, Shoalhaven, and mid north coast (one an island population). There is only one known population on the NSW Southern Tablelands. Inhabits marshes, dams, and stream-sides, particularly those containing bullrushes (*Typha* spp.) or spike rushes (*Eleocharis* spp.). Optimum habitat includes waterbodies that are unshaded, free of predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.	BUN: **Low –** There is superficially suitable habitat within the Bungonia IBRA subregion portion of the project footprint. There are historic records in Sutton area and Molonglo area. However, vagrant to the project footprint. CRO: **Low –** There is superficially suitable habitat within the Crookwell IBRA subregion portion of the project footprint, but no nearby records within the area. MUR: **Low –** There was suitable habitat within the	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Some sites, particularly in the Greater Sydney region occur in highly disturbed areas. The species is active by day and usually breeds in summer when conditions are warm and wet.	Murrumbateman IBRA subregion portion of the project footprint. There are three records within the IBRA subregion, one of which occurs within 20 km of the project footprint, however it is from over 10 years ago, is not associated with any known populations of the species and there are no records within 5 km of the project footprint (BioNet 2022).	
Litoria booroolongensis (BAM-C, BioNet, PMST)	Booroolong Frog	E	-	E	INL: 12	BON:78 INL: 23 MUR: 1	BON: 83 BUN: 1 CRO: 5 INL: 35 MUR: 4	The Booroolong Frog is restricted to NSW and north-eastern Victoria, predominantly along the western-flowing streams of the Great Dividing Range. Live along permanent streams with some fringing vegetation cover such as ferns, sedges, or grasses. Adults occur on or near cobble banks and other rock structures within stream margins. Shelter under rocks or amongst vegetation near the ground on the stream edge. Sometimes bask in the sun on exposed rocks near flowing water during summer. Breeding occurs in spring and early summer and tadpoles metamorphose in late summer to early autumn.	BON: **Moderate** – Suitable permanent streams with cobble banks, woody debris and fringing riparian vegetation occur within the Bondo IBRA subregion portion of the project footprint. BUN: **Low** – less known to occur within the Bungonia IBRA subregion portion of the project footprint. Review of Booroolong Department of Planning and Environment (DPE) mapped streams indicates no mapped streams intersect the alignment within this IBRA subregion. CRO: **Moderate** – Suitable permanent streams with cobble banks, woody debris and fringing riparian vegetation occur within the Crookwell IBRA subregion portion of the project footprint, however, no nearby records within 20 km of the project footprint. INL: **High** – Suitable permanent streams with cobble banks, woody debris and fringing	Potentially impacted by access crossings of streams.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									riparian vegetation occur within the Inland Slopes IBRA subregion portion of the project footprint. There are numerous records in the Inland Slopes IBRA subregion, 12 of which occur within 5 km of the project footprint. MUR: **Low** – Review of Booroolong DPE mapped streams indicates no mapped streams intersect the alignment within this IBRA subregion	
Litoria castanea	Yellow-spotted Tree Frog	CE	-	E	-	MUR: 2	MUR: 3	Require large permanent ponds or slow flowing 'chain-of-ponds' streams with abundant emergent vegetation such as bulrushes and aquatic vegetation. Adults are active during spring and summer and bask on sunny days. Move and forage at night on grassy banks or float on the water's surface. Shelter during autumn and winter under fallen timber, rocks, other debris or thick vegetation.	CRO: **Low** – Suitable permanent streams habitat occurs within the Crookwell IBRA subregion portion of the project footprint, however, no previous records within project footprint or the IBRA subregion. MUR: **Moderate**– Suitable permanent streams habitat occurs within the Murrumbateman IBRA subregion portion of the project footprint. SNO: **Low –** No BioNet records of this species within IBRA subregion (DPE 2022). Suitable habitat occurs in multiple locations (in the form of bogs, fens, ponds, stock dams and drainage channels) within the Snowy Mountains IBRA subregion portion of the project footprint.	Potentially impacted by access crossings of streams.
Litoria littlejohni (BAM-C, BioNet, PMST)	Littlejohn's Tree Frog	V	-	V	-	-	-	This species breeds in the upper reaches of permanent streams and in perched swamps. Non-breeding habitat is heath-based forests and woodlands where it shelters under leaf litter and low vegetation, and hunts for	BUN: **Low** –A recent taxonomic revision divided this species into two species: the northern population = Littlejohn's Tree	Direct/ indirect impacts to species as a result of the

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								invertebrate prey either in shrubs or on the ground. Breeding is triggered by heavy rain and can potentially occur all year but is usually from late summer to early spring when conditions are favourable.	Frog (*L. littlejohni*) and the southern population = Watson's Tree Frog (*L. watsoni*). Following this revision, the distribution of Littlejohn's Tree Frog is now confined to the Sydney Basin While suitable habitat is present and multiple records occur in the locality, the project footprint is outside of known distribution of the species and records local records are likely Watson's Tree Frog prior to taxonomic revision. Bioregion. Species excluded from assessment.	project are highly unlikely.
Litoria spenceri	Spotted Tree Frog	CE	-	E	-	-	SNO: 6 BON: 1	Occur among boulders or debris along naturally vegetated, rocky fast flowing upland streams and rivers. In summer, during the breeding season, adults bask on large in-stream boulders while juveniles occupy shingle banks. In winter animals are thought to hibernate in vegetation outside of the mainstream environment. The Spotted Tree Frog is extremely rare and occurs in scattered, geographically isolated populations. Historically it was known from two streams in southern NSW on the north-west side of the Great Dividing Range, however both populations appeared to have become locally extinct. One population has been re-established via a reintroduction program. It is also known from 15 locations in north-eastern Victoria.	SNO: **Unlikely–** No suitable habitat is present, and known populations are isolated and are not near the project footprint. BON: **Unlikely–** No suitable habitat is present, and known populations are isolated and are not near the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Litoria verreauxii alpina (BAM-C, BioNet, PMST)	Alpine Tree Frog	E	-	V	-	SNO: 33	SNO: 262	Found in a wide variety of habitats including woodland, heath, grassland, and herb fields. Breed in natural and artificial wetlands including ponds, bogs, fens, streamside pools, stock dams and drainage channels that are still or slow flowing. It does not climb well and spends most of its time on the ground. Eats beetles, flies, spiders, and moth larvae. Non-breeding habitat and overwintering refuges are poorly known but are likely to include flat rocks, fallen logs, leaf litter and other ground debris.	CRO: **Unlikely–** No suitable habitat is present, and known populations are isolated and are not near the project footprint. MUR: **Unlikely–** No suitable habitat is present, and known populations are isolated and are not near the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									SNO: **Low–** No suitable habitat is present, and known populations are isolated and are not near the project footprint. BON: **Unlikely–** No suitable habitat is present, and known populations are isolated and are not near the project footprint.	
Mixophyes balbus (BAM-C, PMST)	Stuttering Frog	E	-	V	-	-	-	Found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range. Outside the breeding season adults live in deep leaf litter and thick understorey vegetation on the forest floor. Breed in streams during summer after heavy rain. Eggs are laid on rock shelves or shallow riffles in small, flowing streams.	BUN: **Low** – Suitable wet sclerophyll forest habitat and permanent streams are within the Bungonia IBRA subregion portion of the project footprint. However, closest records are near Ruby Creek in the Blue Mountains (about 40 km north of the project). Species excluded from assessment.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Pseudophryne corroboree (BAM-C, PMST)	Southern Corroboree Frog	CE	-	CE	-	SNO: 1	SNO: 86	The Southern Corroboree Frog is limited to sphagnum bogs of the northern Snowy Mountains, in a strip from the Maragle Range in the north-west, through Mt Jagungal to Smiggin Holes in the south. Summer breeding habitat is pools and seepages in sphagnum bogs, wet tussock grasslands and wet heath. Outside the breeding season adults move away from the bogs into the surrounding heath and snow gum woodland to overwinter under litter, logs and dense groundcover.	SNO: **Low** – The project footprint is outside of known distribution of the species (highly restricted distribution), there is a lack of sphagnum bog habitat within the project footprint, and there are no recent nearby records. Species excluded from assessment.	Unlikely impacts
Pseudophryne pengilleyi (BAM-C, BioNet, PMST)	Northern Corroboree Frog	CE	-	CE	-	BON: 86 SNO: 3 INL: 2	BON: 474 INL: 2 SNO: 12	Summer breeding habitat is pools and seepages in sphagnum bogs, wet heath, wet tussock grasslands and herb fields in low-lying depressions. Feed primarily on small black ants and other invertebrates. Tadpoles overwinter in the pools, feed and grow slowly through spring as the water warms and metamorphose in early summer. Outside the breeding season adults move away from the bogs into the surrounding heath,	INL: **Low –** The species has been excluded vagrant as the project footprint is north of Wee Jasper State Forest. Species excluded from assessment. SNO: **Low –** The species has been excluded vagrant based	Direct/ indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								woodland and forest to overwinter under litter, logs and dense groundcover.	on consultation with BCD as the project footprint is north of Wee Jasper State Forest. Species excluded from assessment. BON: **Low –** The species has been excluded vagrant based on consultation with BCD as the project footprint is north of Wee Jasper State Forest. Species excluded from assessment.	
Aves										
Anthochaera Phrygia (BAM-C, BioNet, PMST)	Regent Honeyeater	CE	-	CE	-	BON: 2 BUN: 7 CRO: 1 INL: 4 MUR: 3	BON: 3 BUN: 50 CRO: 1 INL: 164 MUR: 9	The Regent Honeyeater is a flagship threatened woodland bird whose conservation will benefit a large suite of other threatened and declining woodland fauna. The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River She oak. Regent Honeyeater inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. Every few years non-breeding flocks are seen foraging in flowering coastal Swamp Mahogany and Spotted Gum forests, particularly on the central coast and occasionally on the upper north coast. Birds are occasionally seen on the south coast. In the last 10 years Regent Honeyeaters have been recorded in urban areas around Albury where woodlands tree species such as Mugga Ironbark and Yellow Box were planted 20 years ago. The Regent Honeyeater is a generalist forager, although it feeds mainly on the nectar from a relatively small number of eucalypts that produce high volumes of nectar. Key eucalypt species include Mugga Ironbark, Yellow Box, White Box and Swamp Mahogany. Other tree species may be regionally important. For example, the Lower Hunter Spotted Gum	BON: **Moderate (foraging)** – Only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping. BUN: **Moderate (foraging)** – Only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping. CRO: **Moderate (foraging)** – Only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping. INL: **Moderate (foraging)** – Only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping.	Potential impacts to foraging habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								forests have recently been demonstrated to support regular breeding events. Flowering of associated species such as Thin-leaved Stringybark *Eucalyptus eugenioides* and other Stringybark species, and Broad-leaved Ironbark *E. fibrosa* can also contribute important nectar flows at times. Nectar and fruit from the mistletoes *Amyema miquelii*, *A. pendula* and *A. cambagei* are also utilised. When nectar is scarce lerp and honeydew can comprise a large proportion of the diet. Insects make up about 15% of the total diet and are important components of the diet of nestlings. Colour-banding of Regent Honeyeater has shown that the species can undertake large-scale nomadic movements in the order of hundreds of kilometres. However, the exact nature of these movements is still poorly understood. It is likely that movements are dependent on spatial and temporal flowering and other resource patterns. There are three known key breeding areas, two of them in NSW - Capertee Valley and Bundarra-Barraba regions. The species breeds between July and January in Box-Ironbark and other temperate woodlands and riparian gallery forest dominated by River Sheoak Regent Honeyeaters usually nest in horizontal branches or forks in tall mature eucalypts and She oaks. Also nest in mistletoe haustoria. An open cup-shaped nest is constructed of bark, grass, twigs and wool by the female. Two or three eggs are laid and incubated by the female for 14 days. Nestlings are brooded and fed by both parents at an average rate of 23 times per hour and fledge after 16 days. Fledglings fed by both parents 29 times per hour.	MUR: **Moderate (foraging)** – Only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping.	
Apus pacificus	Fork-tailed Swift	-	-	Migratory	INL: 9	INL: 10	INL: 17	The Fork-tailed Swift is almost exclusively aerial, flying from less than one metre to at least 300 metres above ground and probably much higher.	INL: **Known (recorded) (1 individual) –** Incidental species sighting recorded outside the project footprint buffer approximately 6.3km away. Species may utilise the suitable foraging habitat present in the subject land on occasion. There	Potential for transmission line strikes.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									are multiple records around Lake Albert which is approximately 3.2 km from the project footprint. Parts of the project footprint may be used as a thoroughfare by this species, including the Murrumbidgee River which intersects the project footprint. As such, this species is a potential candidate for transmission line strikes.	
Botaurus poiciloptilus	Australasian Bittern	E	-	E	-	-	BUN: 1 INL: 3	The Australasian Bitterns is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the State except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	BUN: **Low –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion, however there is only one record within the broader IBRA subregion, and it does not occur within 20 km of the project footprint. INL: **Low –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion, however there are only a small number of records within the broader IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Calidris acuminata	Sharp-tailed Sandpiper	-	-	Migratory	INL: 7	INL: 20	INL: 22	The Sharp-tailed Sandpiper is widespread in most regions of NSW, especially in coastal areas, but sparse in the south-central Western Plain and east Lower Western Regions. Prefers muddy edges of shallow or brackish wetlands, with inundated or emergent sedges, saltmarsh or other low vegetation. Also found foraging in sewage ponds and flooded paddocks. Non-breeding migrant to Australia.	INL: **High –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are multiple records within the broader IBRA subregion, seven of which occur within 5 km of the project footprint. There are multiple records around Lake Albert which is approximately 3.2 km from the project footprint, and within the	Potential for transmission line strikes.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
									Murrumbidgee River which intersects the project footprint. This species is a potential candidate for transmission line strikes given that parts of the project footprint may be used as a thoroughfare by this species.	
Calidris ferruginea (PMST)	Curlew Sandpiper	E	-	CE	INL: 2	INL: 3	INL: 3	Generally, occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes inland. It forages in or at the edge of shallow water, occasionally on exposed algal mats or waterweed, or on banks of beach-cast seagrass or seaweed. It roosts on shingle, shell or sand beaches; spits or islets on the coast or in wetlands; or sometimes in salt marsh, among beach-cast seaweed, or on rocky shores.	INL: **Low** – outside of mapped important areas. The species is rare to western NSW, and prefers estuarine, and intertidal habitats. There are a small number of previous records within 5 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Calidris ruficollis (BioNet)	Red-necked Stint	-	-	Migratory	INL: 3	INL: 5	INL: 6	In Australasia, the Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores. Occasionally they have been recorded on exposed or ocean beaches, and sometimes on stony or rocky shores, reefs or shoals. They also occur in saltworks and sewage farms; saltmarsh; ephemeral or permanent shallow wetlands near the coast or inland, including lagoons, lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in saltflats. They sometimes use flooded paddocks or damp grasslands. They have occasionally been recorded on dry gibber plains, with little or no perennial vegetation. During the non-breeding season, over 80% (260 000) of the global population resides in Australia.	INL: **High –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are multiple records within the broader IBRA subregion, three of which occur within 5 km of the project footprint. There are multiple records around Lake Albert which is approximately 3.2 km from the project footprint. Parts of the project footprint may be used as a thoroughfare by this species, including the Murrumbidgee River which intersects the project footprint. As such, this species is a potential candidate for transmission line strikes.	Potential for transmission line strikes.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
Callocephalon fimbriatum	Gang-gang Cockatoo	V		E	BON: 13 BUN: 54 ¶CRO: 5 ¶INL: 83 ¶MUR: 4 ¶SNO: 54	BON: 143 BUN: 83 CRO: 15 INL: 143 MUR: 9 SNO: 201	BON: 275 BUN: 189 CRO: 55 INL: 274 MUR: 63 SNO: 514	In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas. May also occur in sub-alpine Snow Gum (*Eucalyptus pauciflora*) woodland and occasionally in temperate rainforests. Favours old growth forest and woodland attributes for nesting and roosting. Nests are located in hollows that are 10 cm in diameter or larger in eucalypts.	MUR: **Known (recorded) (16 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting (e.g., hollows least 9m above the ground, and with a diameter of 10 cm or larger). SNO: **Known (recorded) (101 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting (e.g., hollows least 9m above the ground, and with a diameter of 10 cm or larger). CRO: **Known (recorded) (19 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting (e.g., hollows least 9m above the ground, and with a diameter of 10 cm or larger). INL: **Known (recorded) (33 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting (e.g., hollows least 9m above the ground, and with a diameter of 10 cm or larger).	Potential impacts to foraging and breeding habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									BUN: **Known (recorded) (66 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting (e.g., hollows least 9m above the ground, and with a diameter of 10 cm or larger). BON: **Known (recorded) (27 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting (e.g., hollows least 9m above the ground, and with a diameter of 10 cm or larger).	
Calyptorhynchus lathami (BAM-C, BioNet)	Glossy Black-Cockatoo	V	-	V	BUN: 1 INL: 2	BUN: 80 INL: 6	BUN: 418 CRO: 1 INL: 93 MUR: 3	Inhabits forest with low nutrients, characteristically with key *Allocasuarina* spp. Tends to prefer drier forest types with a middle stratum of *Allocasuarina* below *Eucalyptus* or *Angophora*. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	BUN: **Known (recorded) (2 individuals) –** Individuals observed and calls recorded within the project footprint during diurnal bird surveys. Suitable foraging and nesting habitat is present in the subject land. There are a high number of records within the broader IBRA subregion, one of which occurs within 5 km of the project footprint. CRO: **Low –** Suitable foraging and nesting habitat is present in the subject land. There is only one record within the broader IBRA subregion, and it	Potential impacts to foraging and breeding habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									does not occur within 20 km of the project footprint. INL: **High –** Suitable foraging and nesting habitat is present in the subject land. There are a high number of records within the broader IBRA subregion, two of which occur within 5 km of the project footprint. MUR: **Low –** Suitable foraging and nesting habitat is present in the subject land. There are a small number of records within the broader IBRA subregion, none of which occur within 20 km of the project footprint.	
Gallinago hardwickii (BioNet)	Latham's Snipe	-	-	Migratory	INL: 3 SNO: 1	BUN: 1 INL: 17 MUR: 1 SNO: 20	BUN: 2 INL: 31 MUR: 1 SNO: 106	Latham's Snipe is a non-breeding migrant to the south-east of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland. seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration.	BUN: **Moderate –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are a small number of records within the broader IBRA subregion, one of which occurs within 20 km of the project footprint. Parts of the project footprint may be used as a thoroughfare by this species, including the Wollondilly River which intersects the project footprint. As such, this species is a potential candidate for transmission line strikes. INL: **High –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are multiple records within the broader IBRA subregion, three of which occur within 5 km of the project footprint. There are	Potential for transmission line strikes.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									multiple records around Lake Albert which is approximately 3.2 km from the project footprint, and within the Murrumbidgee River which intersects the project footprint. This species is a potential candidate for transmission line strikes given that parts of the project footprint may be used as a thoroughfare by this species. MUR: **Moderate –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There is only one record within the broader IBRA subregion, and it occurs within 20 km of the project footprint, but not within 5 km. Parts of the project footprint and adjacent areas may be used as a thoroughfare by this species, including the Yass River which comes within 500 m of the project footprint, and a tributary of which (Derringullen Creek) intersects the project footprint. As such, this species is a potential candidate for transmission line strikes. SNO: **High –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are a high number of records within the broader IBRA subregion, one of which occurs within 5 km of the project footprint.	

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									Parts of the project footprint may be used as a thoroughfare by this species, including the Tumut River which intersects the project footprint. As such, this species is a potential candidate for transmission line strikes.	
Grantiella picta (BAM-C, BioNet)	Painted Honeyeater	V	-	V	INL: 1	INL: 3	INL: 22 MUR: 1 BUN: 5	Inhabits Boree/ Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus *Amyema*.	INL: **High –** Suitable foraging and nesting habitat is present in the subject land. There are multiple records within the broader IBRA subregion, one of which occurs within 5 km of the project footprint. MUR: **Low –** Suitable foraging and nesting habitat is present in the subject land, however there is only one record within the broader IBRA subregion, and it does not occur within 20 km of the project footprint. BON/BUN/CRO: **Low** - Suitable foraging and nesting habitat is present in the subject land, however there are no records within the broader IBRA subregion, and/or it does not occur within 20 km of the project footprint.	Potential impacts to foraging and breeding habitat.
Hirundapus caudacutus	White-throated Needletail	-	-	Migratory	BON: 3 ¶INL: 4 ¶SNO: 2	BON: 10 ¶INL: 9 SNO: 4	BON: 14 ¶BUN: 7 CRO: 4 INL: 29 MUR: 4 SNO: 43	In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground (Coventry 1989; Tarburton 1993; Watson 1955). Because they are aerial, it has been stated that conventional habitat descriptions are inapplicable (Cramp 1985), but there are, nevertheless, certain preferences exhibited by the species. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also	MUR: **Low** – no records nearby however identified in SEARs and therefore further assessment required. SNO: **High** – Suitable foraging and roosting habitat is present and records occur within 5 km of the project footprint. Parts of the project footprint may be used as a thoroughfare by this	Potential for transmission line strikes. Ecologically significant proportion of a population (individuals) for this species is

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland (Higgins 1999). They also commonly occur over heathland (Cooper 1971; Learmonth 1951; McFarland 1988), but less often over treeless areas, such as grassland or swamps (Cooper 1971; Gosper 1981; Learmonth 1951). When flying above farmland, they are more often recorded above partly cleared pasture, plantations or remnant vegetation at the edge of paddocks (Emison & Porter 1978; Friend 1982; Tarburton 1993). In coastal areas, they are sometimes seen flying over sandy beaches or mudflats (Cooper 1971; Crompton 1936; Davis 1965), and often around coastal cliffs and other areas with prominent updraughts, such as ridges and sand-dunes (Cooper 1971; Dawson et al. 1991; Loyn 1980; Mitchell et al. 1996; Schulz & Kristensen 1994). They are sometimes recorded above islands well out to sea (Brandis et al. 1992; Cooper 1971; Warham 1957).	species. As such, this species is a potential candidate for transmission line strikes. CRO: **Low** – no records nearby however identified in SEARs and therefore further assessment required. INL: **High** – Suitable foraging and roosting habitat is present and records occur within 5 km of the project footprint. Parts of the project footprint may be used as a thoroughfare by this species. As such, this species is a potential candidate for transmission line strikes. BUN: **Low** – no records nearby however identified in SEARs and therefore further assessment required. BON: **High** – Suitable foraging and roosting habitat is present and records occur within 5 km of the project footprint. Parts of the project footprint may be used as a thoroughfare by this species. As such, this species is a potential candidate for transmission line strikes.	mortality of 10 birds annually[1].
Lathamus discolor	Swift Parrot	E		CE	INL: 10	BON: 2 INL: 55 MUR: 1	BON: 2 BUN: 6 INL: 202 MUR: 2	Migrates to the Australian south-east mainland between February and October. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany *Eucalyptus*	BUN: **Low** – no records within 20 km, only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping.	Potential impacts to foraging habitat.

[1] Draft referral guideline for 14 birds listed migratory under the EPBC Act

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								robusta, Spotted Gum *Corymbia maculata*, Red Bloodwood *C. gummifera*, Forest Red Gum *E. tereticornis*, Mugga Ironbark *E. sideroxylon*, and White Box *E. albens*. Commonly used lerp infested trees include Inland Grey Box *E. microcarpa,* Grey Box *E. moluccana*, Blackbutt *E. pilularis*, and Yellow Box *E. melliodora*. Return to some foraging sites on a cyclic basis depending on food availability. Following winter, they return to Tasmania where they breed from September to January, nesting in old trees with hollows and feeding in forests dominated by Tasmanian Blue Gum *Eucalyptus globulus*.	MUR: **Moderate (foraging)** – only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping. INL: **High (foraging)** – records within 5 km, only suitable foraging habitat is present in the project footprint. The project footprint is not within the important areas mapping.	
Leipoa ocellata (BAM-C, BioNet)	Malleefowl	E	-	V			INL: 4	Predominantly inhabit mallee communities, preferring the tall, dense and floristically-rich mallee found in higher rainfall (300 - 450 mm mean annual rainfall) areas. Utilises mallee with a spinifex understorey, but usually at lower densities than in areas with a shrub understorey. Less frequently found in other eucalypt woodlands, such as inland grey box, ironbark or bimble box woodlands with thick understorey, or in other woodlands such dominated by mulga or native cypress pine species.	INL: **Low –** Suitable woodland habitat is present in the subject land. There are multiple records within the broader IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Monarcha melanopsis	Black-faced Monarch	-		Migratory		-	-	The Black-faced Monarch mainly occurs in rainforest ecosystems, including semi-deciduous vine-thickets, complex notophyll vine-forest, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and (occasionally) cool temperate rainforest (Blakers et al. 1984; Bravery 1970; Emison et al. 1987; Ford et al. 1980; Gill 1970; Gosper 1992; Laurance et al. 1996; Morris et al. 1981; Officer 1969; Schodde & Mason 1999; Smith 1984; Storr 1984c).	All IBRA Subregions: **Low** – no records nearby however identified in SEARS and therefore further assessment required.	Direct/indirect impacts to species as a result of the project are highly unlikely, however further assessment required as this species is identified in the SEARs.
Myiagra cyanoleuca	Satin Flycatcher	-	-	Migratory	-	-	-	Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on	BON: **Low** – no records nearby however identified in SEARs	Potential impacts to

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests (Blakers et al. 1984; Emison et al. 1987; Officer 1969).	and therefore further assessment required. BUN: **Low** – no records nearby however identified in SEARs and therefore further assessment required. CRO: **Low** – no records nearby however identified in SEARs and therefore further assessment required. INL: **Low** – no records nearby however identified in SEARs and therefore further assessment required. MUR: **Known (recorded) (2 individuals)** – Species recorded within the project footprint on camera trap footage and observed within the clearance zone during diurnal bird surveys. SNO: **Low** – no records nearby however identified in SEARS and therefore further assessment required.	foraging and breeding habitat. Ecologically significant proportion of a population (individuals) mortality of 1700 birds[2]
Polytelis swainsonii	Superb Parrot	V	-	V	CRO: 1 INL: 60 MUR: 73	CRO: 4 INL: 327 MUR: 142	CRO: 4 INL: 2582 MUR: 221	Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina, the bird's nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum Forest or Woodland. On the Southwest Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box. Nest in small colonies, often with more	BON: **Low –** No signs of species presence during targeted survey efforts and no records occur within the IBRA subregion. However, suitable open woodland habitats occur within the Bondo IBRA	Potential impacts to foraging and breeding habitat.

[2] Draft referral guideline for 14 birds listed migratory under the EPBC Act

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								than one nest in a single tree. May forage up to 10 km from nesting sites, primarily in grassy box woodland. Feed in trees and understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plants. Also eaten are fruits, berries, nectar, buds, flowers, insects and grain.	subregion portion of the project footprint. CRO: **High –** No signs of species presence during targeted survey efforts. However, suitable open woodland habitats occur within the Bondo IBRA subregion portion of the project footprint. Records within 5 km. MUR: **Known (recorded) (5 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting habitat in form of grassy box woodland. INL: **Known (recorded) (6 individuals) –** Multiple sightings across the project footprint during diurnal bird surveys and incidental sightings. Suitable foraging and potential nesting habitat in form of grassy box woodland.	
Pycnoptilus floccosus (BioNet)	Pilotbird	-	-	V	BON: 2 INL: 1 SNO: 16	BON: 14 INL: 1 SNO: 53	BON: 64 INL: 1 SNO: 178	Pilotbirds are strictly terrestrial, living on the ground in dense forests with heavy undergrowth. They are typically seen in pairs or occasionally in family parties, occupying small territories all year round. Birds forage mostly in pairs for insects, and occasionally eat seeds and fruits. Breeding takes places between August and January. Adults build a domed nest on or near the ground in which they usually lay two eggs.	BON: **High –** Species may utilise the suitable forest habitat present in the subject land on occasion. There are a high number of records within the broader IBRA subregion, two of which occur within 5 km of the project footprint.	Potential impacts to foraging and breeding habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									INL: **High –** Species may utilise the suitable forest habitat present in the subject land on occasion. There is only one record within the broader IBRA subregion, and it occurs within 5 km of the project footprint. SNO: **High –** Species may utilise the suitable forest habitat present in the subject land on occasion. There are a high number of records within the broader IBRA subregion, 16 of which occur within 5 km of the project footprint.	
Rhipidura rufifrons	Rufous Fantail	-		Migratory		-	-	In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as Tallow-wood (*Eucalyptus microcorys*), Mountain Grey Gum (*E. cypellocarpa*), Narrow-leaved Peppermint (E. radiata), Mountain Ash (E. regnans), Alpine Ash (*E. delegatensis*), Blackbutt (*E. pilularis*) or Red Mahogany (*E. resinifera*); usually with a dense shrubby understorey often including ferns. They also occur in subtropical and temperate rainforests; for example near Bega in south-east NSW, where they are recorded in temperate Lilly Pilly (*Acmena smithi*) rainforest, with Grey Myrtle (*Backhousia myrtifolia*), Sassafras (*Doryphora sassafras*) and Sweet Pittosporum (*Pittosporum undulatum*) subdominants. They occasionally occur in secondary regrowth, following logging or disturbance in forests or rainforests. When on passage, they are sometimes recorded in drier sclerophyll forests and woodlands, including Spotted Gum (*Eucalyptus maculata*), Yellow Box (*E. melliodora*), ironbarks or stringybarks, often with a shrubby or heath	BON: **Known (recorded) (1 individual)** – Individual observed on camera trap footage within project footprint BUN: **Low** – no records nearby however identified in SEARs and therefore further assessment required. CRO: **Low** – no records nearby however identified in SEARS and therefore further assessment required. INL: **Low** – no records nearby however identified in SEARS and therefore further assessment required.	Potential impacts to foraging and breeding habitat. Ecologically significant proportion of a population (individuals) mortality of 1100 birds[3]

[3] Draft referral guideline for 14 birds listed migratory under the EPBC Act

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								understorey. They are also recorded from parks and gardens when on passage. In north and north-east Australia, they often occur in tropical rainforest and monsoon rainforests, including semi-evergreen mesophyll vine forests, semi-deciduous vine thickets or thickets of Paperbarks (*Melaleuca* spp.) (Higgins et al. 2006).	MUR: **Low** – no records nearby however identified in SEARS and therefore further assessment required. SNO: **Low** – no records nearby however identified in SEARS and therefore further assessment required.	
Rostratula australis (BAM-C, BioNet)	Australian Painted Snipe	E	-	E			INL: 1 SNO: 1	Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests amongst tall grass, tussocks or reeds.	INL: **Low –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There is only one record within the broader IBRA subregion, and it does not occur within 20 km of the project footprint. CRO: **Low –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are no records within the broader IBRA subregion, and it does not occur within 20 km of the project footprint. SNO: **Low –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There is only one record within the broader IBRA subregion, and it does not occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Tringa nebularia (BioNet)	Common Greenshank	-	-	Migratory	INL: 3	INL: 4	INL: 4	Occurs in a variety of inland wetlands and sheltered coastal habitats of varying salinity. Found on mudflats, saltmarsh, mangroves in embayments, harbours, deltas and lagoons. Breeds in northern hemisphere.	INL: **High –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are multiple records within the	Potential for transmission line strikes.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									broader IBRA subregion, three of which occur within 5 km of the project footprint. There are multiple records around Lake Albert which is approximately 3.2 km from the project footprint. Parts of the project footprint may be used as a thoroughfare by this species, including the Murrumbidgee River which intersects the project footprint. As such, this species is a potential candidate for transmission line strikes.	
Tringa stagnatilis (BioNet)	Marsh Sandpiper	-	-	Migratory	INL: 0	INL: 3	INL: 5	The Marsh Sandpiper is found on coastal and inland wetlands throughout Australia. The Marsh Sandpiper does not breed in Australia. This species lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. Three of the five sites with highest recorded numbers are saltwater habitats (Hunter Estuary, NSW; Port Hedland Saltworks, Western Australia; Tullakool Evaporation Ponds, NSW). Elsewhere they said to avoid, or rarely occur in, tidal habitats, and rarely occur on beaches. The Marsh Sandpiper usually forages in shallow water at the edge of wetlands. They probe wet mud of mudflats or feed among marshy vegetation. They roost on tidal mudflats, near low saltmarsh, and around inland swamps.	INL: **Moderate –** Species may utilise the limited suitable aquatic habitat present in the subject land on occasion. There are multiple records within the broader IBRA subregion, three of which occur within 20 km of the project footprint. There are multiple records around Lake Albert which is approximately 3.2 km from the project footprint. Parts of the project footprint may be used as a thoroughfare by this species, including the Murrumbidgee River which intersects the project footprint. As such, this species is a potential candidate for transmission line strikes.	Potential for transmission line strikes.
Invertebrates										
Keyacris scurra	Key's Matchstick Grasshopper	E	-	E	SNO: 1	INL: 1 MUR: 2 SNO:1	INL: 5 MUR: 6 SNO: 5 BUN: 9	This species is typically recorded in native grasslands, secondary native grasslands or areas that contain the native grass *Themeda* with appropriate disturbance regimes.	BUN: **Moderate** – limited survey and potential habitat within the project footprint, but no records within 20 km of the project footprint.	Potential impacts to known and potential habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									CRO: **Low** – no records within IBRA subregion. MUR: **Known -** Recorded- 4 individuals within PCT 280. INL: **Moderate** – two records within 20 km and potential habitat within the project footprint.	
Paralucia spinifera	Purple Copper Butterfly	E	-	V	-	-	-	The Purple Copper Butterfly occurs on the Central Tablelands in an area approximately bounded by Capertee, Black Springs, Hartley and Bathurst. It occurs in eucalypt woodland, mainly in open clearings. All locations are above 900 m in altitude and are associated with the presence of the larval food plant; *Bursaria spinosa.* subsp. *lasiophylla* (blackthorn) and a species of attendant ant; *Anonychomyrma itinerans*. The Purple Copper Butterfly has been recorded from 35 locations, all within the Greater Lithgow, Bathurst Regional and Oberon local government areas.	MUR: **Low.** No records in the IBRA region and no impacts to potential habitat.	Unlikely impacts.
Synemon plana	Golden Sun Moth	E	-	CE	INL: 11 MUR: 59	INL: 25 MUR: 135	INL: 50 MUR: 518	The Golden Sun Moth's NSW populations are found in the area between Queanbeyan, Gunning, Young and Tumut. The species' historical distribution extended from Bathurst (central NSW) through the NSW Southern Tablelands, through to central and western Victoria, to Bordertown in eastern South Australia. Occurs in Natural Temperate Grasslands and grassy Box-Gum Woodlands in which ground layer is dominated by wallaby grasses. Grasslands dominated by wallaby grasses are typically low and open - the bare ground between the tussocks is thought to be an important microhabitat feature for the Golden Sun Moth, as it is typically these areas on which the females are observed displaying to attract males. Habitat may contain several wallaby grass species, which are typically associated with other grasses particularly spear-grasses *Austrostipa spp*. or Kangaroo Grass *Themeda australis*. Adults are short-lived (one to four days) and do not feed - having no	MUR: **High –** Suitable grassland habitat (native and exotic) occurs in various locations across the project footprint and previous records within 5 km of project footprint. INL: **High –**Suitable grassland habitat (native and exotic) occurs in various locations across the project footprint and previous records within 5 km of project footprint.	Potential impacts to foraging and breeding habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								functional mouthparts; the larvae are thought to feed exclusively on the roots of wallaby grasses. The flight period is relatively short, typically lasting from six to eight weeks (during November and December in the ACT region, possibly earlier or later in other regions). Males fly only in bright sunshine during the warmest part of the day (1000 - 1400 hrs).		
Mammals										
Burramys parvus	Mountain Pygmy-possum	E		E		SNO: 75	SNO: 739	The Mountain Pygmy-possum lives only in alpine and subalpine areas on the highest mountains of Victoria and NSW. Lives on the ground in rocky areas where boulders have accumulated below mountain peaks; frequently associated with alpine heathland shrubs dominated by the Mountain Plum-pine (*Podocarpus lawencei*). Survives winter by fattening in late summer and autumn and hibernating for up to seven months, from autumn until the snow melts in spring. Seventy percent of the diet is invertebrates such as the migratory Bogong Moth, caterpillars, beetles, spiders, and millipedes; the remainder comprises fruits and seeds from species such as the Mountain Plum Pine and Snow Beard-heath. One litter of four young are produced in spring; young are independent by late summer; breeds when one year old; average longevity is two to three years, but females may live up to thirteen years and males five years. Daily movements between habitat patches can be up to 1 km for females and 3 km for males; males and young animals disperse in autumn. The only Australian mammal to be entirely restricted to the alpine zone in areas above the winter snowline; it is dependent on the insulation provided by snow for its survival.	SNO: **Low -** In NSW, the entire range is in a 30 km by 8 km area of Kosciuszko National Park between Thredbo and Kerries Ridge, where it occupies less than four km² of habitat. The total population size is less than 500 adults. Two of the four main sub-populations in NSW are found within ski resort areas. The project footprint does not intersect the four-square kilometre area of habitat.	Direct/indirect impacts to species because of the project are highly unlikely.
Chalinolobus dwyeri	Large-eared Pied Bat	V		V		BUN: 15	BUN: 49 INL: 12	Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (*Petrochelidon ariel*), frequenting low to mid-elevation dry open forest and woodland close to these features. Females have been recorded raising young in maternity roosts (c. 20-40 females) from November through to January in roof	BUN: **Moderate –** There are multiple Large-eared Pied Bat records within the broader Bungonia IBRA subregion (15 records within 20 km of the project footprint, none within 5 km of the project footprint).	Potential impacts to common foraging habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								domes in sandstone caves and overhangs. They remain loyal to the same cave over many years. Found in well-timbered areas containing gullies. The relatively short, broad wing combined with the low weight per unit area of wing indicates manoeuvrable flight. This species probably forages for small, flying insects below the forest canopy. Likely to hibernate through the coolest months. It is uncertain whether mating occurs early in winter or in spring.	There are also portions of the project footprint with high topographical relief. Ultrasonic surveys were conducted within five locations across the Bungonia section of the project footprint for a total of 45 trap nights, and no Large-eared Pied Bat individuals were recorded. Despite this, limited survey coverage suggests that there is still potential for the species to occur within the project footprint. INL: **Low –** There are a low number Large-eared Pied Bat records within the broader Inland Slopes IBRA subregion (greater than 20 km from the project footprint). Ultrasonic surveys were conducted within 11 locations across the Inland Slopes section of the project footprint for a total of 306 trap nights, and no Large-eared Pied Bat individuals were recorded. Based on the above factors, there is a low likelihood of the species occurring within the Inland Slopes section of the project footprint.	
Dasyurus maculatus (BAM-C, BioNet)	Spotted-tailed Quoll	V	-	E	BON: 7 INL: 3 SNO: 7	BON: 18 BUN: 3 CRO: 1 INL: 12 MUR: 1 SNO: 10	BON: 22 BUN: 53 CRO: 5 INL: 43 MUR: 2 SNO: 23	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal	BON: **High –** Suitable foraging and den habitat is present in the subject land. There are multiple records within the broader IBRA subregion, seven	Potential impacts to foraging and den habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								heath and inland riparian forest, from the sub-alpine zone to the coastline.	of which occur within 5 km of the project footprint. BUN: **Moderate –** Suitable foraging and den habitat is present in the subject land. There are a high number of records within the broader IBRA subregion, three of which occur within 20 km of the project footprint. CRO: **Moderate –** Suitable foraging and den habitat is present in the subject land. There are a small number of records within the broader IBRA subregion, one of which occurs within 20 km of the project footprint. INL: **High –** Suitable foraging and den habitat is present in the subject land. There are a high number of records within the broader IBRA subregion, three of which occur within 5 km of the project footprint. MUR: **Moderate –** Suitable foraging and den habitat is present in the subject land. There are a small number of records within the broader IBRA subregion, one of which occurs within 20 km of the project footprint.	

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									SNO: **High –** Suitable foraging and den habitat is present in the subject land. There are multiple records within the broader IBRA subregion, seven of which occur within 5 km of the project footprint	
Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern)	E		E			BUN: 1	Southern Brown Bandicoots are largely crepuscular (active mainly after dusk and/or before dawn). They are generally only found in heath or open forest with a heathy understorey on sandy or friable soils. They feed on a variety of ground-dwelling invertebrates and the fruit-bodies of hypogenous (underground-fruiting) fungi. Their searches for food often create distinctive conical holes in the soil. Males have a home range of approximately 5-20 ha whilst females forage over smaller areas of about 2-3 ha. Nest during the day in a shallow depression in the ground covered by leaf litter, grass or other plant material. Nests may be located under Grass trees *Xanthorrhoea spp*., blackberry bushes and other shrubs, or in rabbit burrows. The upper surface of the nest may be mixed with earth to waterproof the inside of the nest. Mating occurs any time of the year, usually following heavy rain. Two or three litters of 2-4 young may be produced annually. The gestation period of 11-12 days is the shortest known of any marsupial while young remarkably become independent around 60 days after being born.	BUN: **Low –** The Southern Brown Bandicoot (eastern) has a patchy distribution. There are no records within 10-km of the project footprint. Across the Bungonia section of the project footprint, surveys targeting Southern Brown Bandicoot (eastern) included baited hair tubes for 126 traps nights, spotlighting surveys for 15 person hours, and baited remote camera traps deployed in suitable habitat for 265 trap nights (total survey effort of 391.15 trap nights). Based on multiple lines of evidence (survey effort, restricted distribution and no nearby records), the likelihood of occurrence for Southern Brown Bandicoot (eastern) is considered low.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Mastacomys fuscus	Broad-toothed Rat	V		V	SNO: 10	BON: 11 SNO: 90	BON: 37 SNO: 630	The Broad-toothed Rat lives in a complex of runways through the dense vegetation of its wet grass, sedge, or heath environment, and under the snow in winter. This relatively warm under-snow space enables it to be active throughout winter. A male's home range overlaps those of several females. Sheltering nests of grass are built in the understorey or under logs, where two or three young are born in summer. In winter, the rats huddle together	BON: **Low –** Broad-toothed Rat occupies alpine sedge, heath environments. No suitable habitat for the species occurs within the project footprint. The species has several records (DPE 2022) within the broader Bondo IBRA subregion,	Potential impacts to foraging and nesting habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								in nests, for warmth. Food is mostly, gathered at night, in summer and autumn and during the afternoon and early evening in winter. The diet consists almost solely of greenery - grass and sedge stems, supplemented by seeds and moss spore cases.	however, none within the project footprint. Surveys targeting Broad-toothed Rat, include baited terrestrial hair tubes for 306 trap nights, and baited remote cameras for 8 trap nights (total survey effort of 404 trap nights). No individuals were identified during targeted surveys. SNO: **High –** Suitable habitat for Broad-toothed Rat has been recorded by the NSW Forestry Corporation within Bago State Forest in proximity to the project footprint. There are multiple previous records (DPE 2022) within the Snowy Mountains portion of the project footprint. Surveys targeting Broad-toothed Rat, include baited terrestrial hair tubes for 90 trap nights, baited remote cameras for 318 trap nights, and spotlighting for 64 person hours (total survey effort of 409 trap nights). No individuals were identified during targeted surveys Further, a dead carcass of small mammal was identified during the spotlighting surveys, however, DNA analyses confirmed that the specimen was not a Broad-toothed Rat.	
Nyctophilus corbeni (BAM-C, BioNet)	Corben's Long-eared Bat	V	-	V			INL: 9	The Corben's Long-eared Bat has a limited distribution that is restricted around the Murray-Darling Basin in south-eastern Australia. Even in this region its	INL: **Low –** Suitable foraging and roosting habitat is present in the subject land. There are	Direct/indirect impacts to species as a

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								distribution is scattered and it is rarely recorded. It occurs in far eastern South Australia, in areas north of the Murray River, east of Canegrass Station and south of the Barrier Highway. These areas include the Riverland Biosphere Reserve, Danggali Conservation Park and the Birds Australia Gluepot Reserve. It is distributed throughout inland NSW except in the north-west area which is dominated by treeless plains. It can be found in the Hunter Valley, extending from central NSW to the eastern Hunter Valley coast.	multiple records within the broader IBRA subregion, none of which occur within 20 km of the project footprint	result of the project are highly unlikely.
Petauroides volans	Greater Glider	E		E	BON: 13 ¶BUN: 6 ¶INL: 3 SNO: 25	BON: 78 BUN: 34 INL: 16 SNO: 47	BON: 102 BUN: 96 CRO: 122 INL: 97 MUR: 1 SNO: 53	Greater Glider (southern and central) is the largest gliding possum in eastern Australia. It has a head and body length of 35−46 cm, tail length of 45−60 cm, and a weight range of 900−1700 g, with females being larger than males (McKay 1989, 2008; McGregor et al. 2020). The greater glider (southern and central) has thick fur that increases its apparent size. Its fur colour is white or cream below and varies from dark grey, dusky brown through to light mottled grey and cream above. It has a long furry tail, large furry ears and a short snout. Its tail is not prehensile, and the gliding membrane extends from the forearm to the tibia (Mckay 1989, 2008). Greater Glider (southern and central) occurs in eastern Australia, where it has a broad distribution from around Proserpine in Qld, south through NSW and the ACT, to Wombat State Forest in central Vic (McGregor et al. 2020; B Arbogast & KN Armstrong et al. unpublished data; OZCAM records: Atlas of Living Australia 2021). It occurs across an elevational range of 0−1200 m above sea level (a.s.l) (Kavanagh 2004).	BON: **Known (recorded) (18 individuals)–** Species recorded during targeted surveys in high condition, mature remnant. BUN: **Known (recorded) (2 individuals)–** Species recorded during targeted surveys in high condition, mature remnant. CRO: **Low –** No records within 20 km. INL: **High –** Potential to occur in intact remnants, with moderate to high connectivity. Records within 5 km. MUR: **Low –** No records within 20 km. SNO: **Known (recorded) (15 individuals)**– Species recorded in high condition, mature remnant.	Potential impacts to foraging and breeding habitat.
Petaurus australis (BAM-C, BioNet)	Yellow-bellied Glider	V	-	V	BON: 65 BUN: 1 SNO: 474	BON: 236 BUN: 9 INL: 2 SNO: 708	BON: 334 BUN: 34 INL: 2 SNO: 728	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	BON: **Known (recorded) (10 individuals) –** Multiple sightings and calls heard across project footprint during nocturnal surveys. Suitable foraging and breeding habitat is present in the subject land. There are a high number of	Potential impacts to foraging and breeding habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									records within the broader IBRA subregion, 65 of which occur within 5 km of the project footprint. BUN: **High –** Suitable foraging and breeding habitat is present in the subject land. There are multiple records within the broader IBRA subregion, one of which occurs within 5 km of the project footprint. INL: **Known (recorded) (1 individual) –** Incidental sighting outside project footprint buffer. Suitable foraging and breeding habitat is present in the subject land. There are a small number of records within the broader IBRA subregion, two of which occur within 20 km of the project footprint. SNO: **Known (recorded) (19 individuals) –** Multiple sightings and calls heard across project footprint during nocturnal surveys. Suitable foraging and breeding habitat is present in the subject land. There are a high number of records within the broader IBRA subregion, 474 of which occur within 5 km of the project footprint.	
Petrogale penicillata	Brush-tailed Rock-wallaby	E		V		BUN: 15	BUN: 33 INL: 3	Occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves	BUN: **Low -** Patchily distributed along the Great Dividing	Direct/indirect impacts to

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								and ledges, often facing north. Shelter or bask during the day in rock crevices, caves and overhangs and are most active at night when foraging. Browse on vegetation in and adjacent to rocky areas eating grasses and forbs as well as the foliage and fruits of shrubs and trees. Highly territorial and have strong site fidelity with an average home range size of about 15 ha. Males tend to have larger home ranges than females. The home range consists of a refuge area and a foraging range linked by habitually used commuting routes. Females settle in or near their mother's range, while males mainly disperse between female groups within colonies, and less commonly between colonies. Dominant males associate and breed with multiple females. Breeding occurs throughout the year with a peak in births between February and May, especially in the southern parts of the range and at higher altitudes.	Range, predominantly on the eastern scarp with known outlying populations at Warrumbungle Ranges and Mt Kaputar. No known populations within proximity of the project footprint. Records within 20 km. INL: **Unlikely** - Patchily distributed along the Great Dividing Range, predominantly on the eastern scarp with known outlying populations at Warrumbungle Ranges and Mt Kaputar. No known populations within proximity to the project footprint. No records within 20 km.	species as a result of the project are highly unlikely.
Phascolarctos cinereus	Koala	E		E	BON: 2 ¶CRO: 2 ¶INL: 3 ¶MUR: 1	BON: 3 BUN: 34 CRO: 6 INL: 13 MUR: 9	BON: 6 BUN: 253 CRO: 10 INL: 89 MUR: 15 SNO: 2	Inhabit eucalypt woodlands and forests. Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species. Inactive for most of the day, feeding and moving mostly at night. Spend most of their time in trees but will descend and traverse open ground to move between trees. Home range size varies with quality of habitat, ranging from less than 2 ha to several hundred hectares in size. Generally solitary, but have complex social hierarchies based on a dominant male with a territory overlapping several females and sub-ordinate males on the periphery. Females breed at two years of age and produce one young per year.	BON: **Moderate –** Suitable Koala habitat occurs within the project footprint with moderate connectivity and Koala feed trees in various densities. There are a few Koala records (DPE 2022) within 5 km of the project footprint, within the Bondo IBRA subregion. However consultation with Koala expert Steve Phillips suggests the region occurs some distance from known source populations. As such, these records are considered to be transient individuals. BUN: **High –** Suitable Koala habitat occurs within the project footprint with	Potential impacts to foraging and shelter habitat.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
									moderate to high levels of connectivity and Koala feed trees in various densities. There are a high number of Koala records (DPE 2022) within the broader Bungonia IBRA subregion. Consultation with Koala expert Steve Phillips suggests the region occurs within proximity to a known source population. There were 22 SAT surveys undertaken in suitable Koala habitat across the Bungonia portion of the project footprint, however, no Koalas were identified during surveys. Despite this, there is potential for Koalas to utilise habitats within the Bungonia project footprint given proximity to known populations. CRO: **Moderate –** As per the Bondo IBRA subregion INL: **Moderate –** As per the Bondo IBRA subregion MUR: **Moderate –** As per the Bondo IBRA subregion SNO: **Moderate –** No records within 20 km.	
Potorous tridactylus	Long-nosed Potoroo	V		V			BUN: 1	Long-nosed Potoroo is found on the south-eastern coast of Australia, from Queensland to eastern Victoria and Tasmania, including some of the Bass Strait islands. In NSW it is generally restricted to coastal heaths and forests east of the Great Dividing Range, with an annual rainfall exceeding 760 mm. Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is	BUN: **Unlikely –** Vagrant In NSW it is generally restricted to coastal heaths and forests east of the Great Dividing Range, with an annual rainfall exceeding 760 millimetres. Outside of known species range (vagrant).	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								an essential part of habitat, and may consist of grasstrees, sedges, ferns, or heath, or of low shrubs of tea-trees or melaleucas. A sandy loam soil is also a common feature. The fruit-bodies of hypogenous (underground-fruiting) fungi are a large component of the diet of the Long-nosed Potoroo. They also eat roots, tubers, insects and their larvae and other soft-bodied animals in the soil. Often digs small holes in the ground in a similar way to bandicoots. Mainly nocturnal, hiding by day in dense vegetation - however, during the winter months animals may forage during daylight hours. Individuals are mainly solitary, non-territorial and have home range sizes ranging between 2-5 ha. Breeding peaks typically occur in late winter to early summer and a single young is born per litter. Adults are capable of two reproductive bouts per annum.		
Pseudomys fumeus	Smoky Mouse	CE		E		BON: 9 SNO: 28	BON: 24 SNO: 236	The Smoky Mouse appears to prefer heath habitat on ridge tops and slopes in sclerophyll forest, heathland, and open forest from the coast (in Victoria) to sub-alpine regions of up to 1800 metres, but sometimes occurs in ferny gullies. Seeds and fruits from leguminous shrubs form the main summer and autumn diet, with some invertebrates, e.g., Bogong Moths in the high country. Hypogeal (truffle-like) fungi predominate in winter and spring, with some flowers, seeds and soil invertebrates. May occur singly, as pairs or small communal groups based around patches of heath, sometimes comprising a male and up to five females sharing a burrow system. Breeding is in spring with one or two litters produced of up to four young. Nesting burrows have been found in rocky localities among tree roots and under the skirts of Grass Trees Xanthorrhoea spp. The persistence of colonies appears to be very ephemeral. It is not known how much this is due to natural fluctuations in food availability, but predation from feral carnivores appears to be implicated.	BON: **Moderate –** Smoky Mouse has several records (DPE 2022) within 20 km of the project footprint, in the Bondo IBRA subregion, however, none within the project footprint. The species occupies alpine sedge, heath environments. Surveys targeting Smoky Mouse, include baited terrestrial hair tubes for 306 trap nights, and baited remote cameras for 8 trap nights (total survey effort of 404 trap nights). No individuals were identified during targeted surveys. SNO: **Moderate –** Smoky Mouse has multiple previous records (DPE 2022) within 20 km of the Snowy Mountains portion of the project	Potential impacts to foraging and nesting habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									footprint, and the species occupies alpine sedge, heath environments. Surveys targeting Smoky Mouse, include baited terrestrial hair tubes for 90 trap nights, baited remote cameras for 318 trap nights, and spotlighting for 64 person hours (total survey effort of 409 trap nights). No individuals were identified during targeted surveys.	
Pseudomys novaehollandiae (BAM-C, BioNet)	New Holland Mouse	-	-	V			INL: 8	The New Holland Mouse currently has a disjunct, fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey, and vegetated sand dunes.	INL: **Low –** Suitable woodland habitat is present in the subject land. There are multiple records within the broader IBRA subregion, none of which occur within 20 km of the project footprint	Direct/indirect impacts to species as a result of the project are highly unlikely.
Pteropus poliocephalus	Grey-headed Flying-fox	V		V	CRO: 2 ¶INL: 7 ¶MUR: 7	BUN: 2 CRO: 3 INL: 46 MUR: 16	BUN: 15 CRO: 3 INL: 262 MUR: 58	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy. Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young. Annual mating commences in January and conception occurs in April or May; single young is born in October or November. Site fidelity to camps is high; some camps have been used for over a century. Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km. Feed on the nectar and pollen of native trees, in particular *Eucalyptus*, *Melaleuca* (Myrtaceae) and *Banksia* (Proteaceae), and fruits of rainforest trees and vines. Also forage in cultivated gardens and fruit crops.	BUN: **Moderate –** Grey-headed Flying-fox has multiple records (DPE 2022) within the Bungonia portion of the project footprint. The species is nomadic and can travel up to 20 km during nightly foraging. During survey, no camps were identified within the project footprint, however, the project footprint is likely to support foraging individuals at certain times of the year. CRO: **High –** Grey-headed Flying-fox has multiple records (DPE 2022) within the Crookwell portion of the project footprint. The species is nomadic and can travel up to	Potential impacts to common foraging habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									20 km during nightly foraging. During survey, no camps were identified within the project footprint, however, the project footprint is likely to support foraging individuals at certain times of the year. INL: **High –** Grey-headed Flying-fox has multiple records (DPE 2022) within the Inland Slopes portion of the project footprint. The species is nomadic and can travel up to 20 km during nightly foraging. During survey, no camps were identified within the project footprint, however, the project footprint is likely to support foraging individuals at certain times of the year. MUR: **High –** Grey-headed Flying-fox has multiple records (DPE 2022) within the Murrumbateman IBRA subregion, with a seasonal camp (during the summer months) of 1000 individuals established in Yass (approximately 7 km from the project footprint). The project footprint is likely to support foraging habitat for individuals from that camp, when occupied.	
Reptiles										
Aprasia parapulchella	Pink-tailed Legless Lizard	V		V	BUN: 1 CRO: 2	BUN: 1 CRO: 2 MUR: 6	BUN: 1 CRO: 2 INL: 153	Inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass (*Themeda australis*).	BUN: **High -** Two reptile searches surveys were undertaken in suitable rocky	Potential impacts to

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
							MUR: 86	Sites are typically well-drained, with rocky outcrops or scattered, partially buried rocks. Commonly found beneath small, partially embedded rocks and appear to spend considerable time in burrows below these rocks; the burrows have been constructed by and are often still inhabited by small black ants, and termites. Feeds on the larvae and eggs of the ants with which it shares its burrows. It is thought that this species lays 2 eggs inside the ant nests during summer; the young first appear in March.	habitat within the Bungonia IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are records within 5 km of the project footprint, however there are also generally low numbers of records across the broader Bungonia IBRA subregion (DPE 2022). Given the records nearby and low number of surveys undertaken, the likelihood of occurrence is considered high. CRO: **High -** 19 reptile searches surveys were undertaken in suitable rocky habitat within the Crookwell IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are records within 5 km of the project footprint, however there are a low number of records within the broader Crookwell IBRA subregion (DPE 2022). Given the records nearby, the likelihood of occurrence is considered high. INL: **Low -** 31 reptile searches surveys were undertaken in suitable rocky habitat within the Inland Slopes IBRA subregion portion of the project footprint. However, no	foraging and shelter habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									individuals were identified and there was limited suitable rocky habitat observed. There are a low number of records within the broader Inland Slopes IBRA subregion (DPE 2022), however none within 20 km of the project footprint. The likelihood of occurrence is considered low based on level of survey undertaken to date. MUR: **Known (recorded) (5 individuals) –** Pink-tailed Legless Lizard was identified during targeted surveys within the project footprint. The species was commonly identified in open woodland areas with rocky outcrops or scattered, partially buried rocks. SNO: **Low –** 25 reptile searches surveys were undertaken in suitable rocky habitat within the Snowy Mountains IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are no records within the broader IBRA subregion (DPE 2022) and none within 20 km of the project footprint. The likelihood of occurrence is considered low based on level of survey undertaken to date.	

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
Cyclodomorphus praealtus	Alpine She-oak Skink	E		E		SNO: 24	SNO: 378	The Alpine She-oak Skink has specific habitat requirements, preferring tree-less or very lightly treed areas that contain tussock grasses, low heath or a combination of both. Within this habitat the species shelters beneath litter, rocks, logs and other ground debris, and has been observed basking on grass tussocks. In NSW, Alpine She-oak Skinks have been observed in alpine to sub-alpine grasslands in flat to gently sloping areas. Little is known about the breeding biology of the species as it is difficult to detect, spending much of its time sheltering within tussock clumps. The species gives birth to live young and a study of preserved museum specimens found several females, which had been collected during summer, pregnant with between two and nine embryos, suggesting a summer breeding period. The diet of the Alpine She-Oak Skink is largely carnivorous, mostly consisting of small invertebrates, such as molluscs and insects. The species has also been recorded to occasionally feed on small lizards and snakes and potentially consumes a limited amount of plant material. Adults appear to have relatively small home ranges and remain in the same general area for long periods of time. The largest distance recorded between sightings of the same individual is roughly 45 metres. As a result of its narrow altitudinal range and specific habitat requirements, the Alpine She-oak Skink is considered to have a limited capacity for dispersal.	SNO: **Low –** Alpine She-oak Skink has a relatively small home range and is confined to native grassland or heath habitats within a narrow altitudinal range. Based on consultation with the BCD, the species is unlikely to occur west of Maragle at elevations less than 1200 m elevation. Given this, the project footprint is considered outside of the known range of the species.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Delma impar	Striped Legless Lizard	V		V	INL: 3 MUR: 13	INL: 4 MUR: 13	INL: 4 MUR: 13	Found mainly in Natural Temperate Grassland but has also been captured in grasslands that have a high exotic component. Also found in secondary grassland near Natural Temperate Grassland and occasionally in open Box-Gum Woodland. Habitat is where grassland is dominated by perennial, tussock-forming grasses such as Kangaroo Grass *Themeda australis*, spear-grasses *Austrostipa spp*. and poa tussocks *Poa spp.*, and occasionally wallaby grasses *Austrodanthonia* spp. Sometimes present in modified grasslands with a significant content of exotic grasses. Sometimes found in	BON: **Moderate** - Two reptile searches surveys were undertaken in suitable rocky habitat within the Bondo IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are also generally low numbers of records across the broader	Potential impacts to foraging and shelter habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								grasslands with significant amounts of surface rocks, which are used for shelter. Sometimes utilises dried cowpats for shelter. Actively hunts for spiders, crickets, moth larvae and cockroaches. Two papery eggs are laid in early summer. Goes below ground or under rocks or logs over winter.	Bondo IBRA subregion, and none within 20 km of the project footprint (DPE 2022). Given the low number of surveys undertaken, the likelihood of occurrence is considered moderate. BUN: **Moderate** - Two reptile searches surveys were undertaken in suitable rocky habitat within the Bungonia IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are also generally low numbers of records across the broader Bungonia IBRA subregion, and none within 20 km of the project footprint (DPE 2022). Given the low number of surveys undertaken, the likelihood of occurrence is considered moderate. CRO: **Low** – 19 reptile searches surveys were undertaken in suitable rocky habitat within the Crookwell IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are also generally low numbers of records across the broader Crookwell IBRA subregion (DPE 2022). Given the considerable number of surveys undertaken,	

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									the likelihood of occurrence is considered low within the project footprint. INL: **High** – 31 reptile searches surveys were undertaken in suitable rocky habitat within the Inland Slopes IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are a small number of records within 5 km of the project footprint. Given the nearby records, the likelihood of occurrence is considered high. MUR: **High** – 27 reptile searches surveys were undertaken in suitable rocky habitat within the Murrumbateman IBRA subregion portion of the project footprint. However, no individuals were identified and there was limited suitable rocky habitat observed. There are records within 5 km of the project footprint, however there are also generally low numbers of records across the broader Murrumbateman IBRA subregion (DPE 2022). Given the nearby records, the likelihood of occurrence is considered high.	
Hoplocephalus bungaroides	Broad-headed Snake	E		V				The Broad-headed Snake is restricted to the sandstone ranges in the Sydney Basin and within a radius of	BUN: **Unlikely –** Across the Bungonia section of the project	Direct/indirect impacts to

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								approximately 200 km of Sydney (Cogger et al. 1993; NSW National Parks and Wildlife Service 2001), and typically occupy west and north facing aspects sandstone ridgetops. Nocturnal. Shelters in rock crevices and under flat sandstone rocks on exposed cliff edges during autumn, winter, and spring. Moves from the sandstone rocks to shelters in cervices or hollows in large trees within 500m of escarpments in summer. Feeds mostly on geckos and small skinks; will also eat frogs and small mammals occasionally. Females produce four to 12 live young from January to March, which is a relatively low level of fecundity.	footprint, there is no known Sydney sandstone ridgetop habitat available to support the species. Based on multiple lines of evidence such as the species habitat requirements, restricted known and predicted distribution and no nearby records, the likelihood of occurrence for Broad-headed Snake is considered highly unlikely.	species as a result of the project are highly unlikely.
Liopholis guthega	Guthega Skink	E		E			SNO: 586	The Guthega Skink occurs between 1600 m and 2170 m – in the coldest (winter snow cover) and some of the wettest regions on mainland Australia. Preferred habitats are usually rocky or have sub-surface boulders hidden beneath soil or thick vegetation. The NSW distribution occurs where there is a granite substrate and decomposing granite soils. Individuals have been recorded in a range of vegetation types, including open *Eucalyptus pauciflora* (Snow Gum) woodland with grassy or shrubby understoreys, dry tussock grassland, and tall and short heath. A review of the life history of all *Liopholis* and *Egernia* species suggests that the Guthega skink would take 3–4 years to reach sexual maturity and have a lifespan of at least 8–10 years. The Guthega Skink mates in late spring or early summer and gives birth to three or four live young in February–March. Otherwise, the breeding system and breeding success of the Guthega Skink is largely unknown. The social structure and dispersion of the Guthega Skink is poorly known, but they are known to be colonial, and live in warren systems. It is likely that adults have considerable site fidelity frequenting a familiar burrow network and basking and foraging areas. Consequently, home ranges are likely to be small.	SNO: **Unlikely–** Guthega Skink is restricted to locations above 1600 m asl in the Australia Alps and Bogong High Plains. The species has a narrow altitudinal range and therefore, the project footprint is considered outside of the known range. Further, 48 targeted reptile searches were undertaken within the project footprint and did not identify the species.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								The Guthega Skink is restricted to locations above 1600 m in the Australian Alps, in the vicinity of Mt Kosciuszko, NSW, and the Bogong High Plains, Victoria.		
Fish										
Bidyanus bidyanus	Silver Perch		V	CE				Silver perch are endemic to the Murray-Darling system (including all states and sub-basins) and previously occurred in a range of habitats. Silver Perch are generally found in lowland areas outside of cooler upstream waters, although the species may undertake large scale migrations into upstream reaches. Silver Perch are generally found in faster flowing streams, including rapid habitats, and in more open water habitats. However, the species has also been stocked into impoundments.	Indicative distribution mapping for the species within the project footprint includes the Murrumbidgee River (Department of Primary Industries (DPI) 2016c, 2022a), although currently there is only one known strong viable natural population in the middle Murray region (Threatened Species Scientific Committee, 2013). Silver Perch has the potential to occur within the project footprint in larger streams, particularly the Murrumbidgee River.	Unlikely impacts.
Galaxias rostratus	Flatheaded Galaxias		CE	CE				The species occurs in still and gently flowing small streams, lakes, lagoons, billabongs and backwaters with coarse sand or muddy substrate and aquatic vegetation (DPI 2014).	The Flatheaded Galaxias is restricted to the southern Murray-Darling Basin (Lintermans 2007), although the species once occurred in the middle reaches of the Lachlan, Murrumbidgee and Murray River catchments in New South Wales (Threatened Species Scientific Committee 2016, Department of Agriculture, Water and the Environment (DAWE) 2022a). The last Flatheaded Galaxias record in the Murrumbidgee River was in 1971 and the Fisheries Scientific Committee	Unlikely impacts.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									(2008a) suggest the species may be locally extinct from Murrumbidgee and Lachlan rivers. This is contrary to the indicative habitat mapping (DPI 2022a) which includes large sections of these major waterways and associated stream networks. On the basis of these factors, the species is considered unlikely to occur within the project footprint, however a precautionary approach has been adopted and potential impacts to the species are considered further in Section 12.5.1.	
Nannoperca australis	Southern Pygmy Perch		E	V				The Southern Pygmy Perch prefers slow flowing or still waters in small streams, billabongs, vegetated lakes and irrigation channels with dense aquatic vegetation and habitat cover (Lintermans 2007). These habitats are generally absent from the desktop assessment of aquatic habitats. Where these habitats do occur in some form, they are typically limited and have been subject to degradation from deleterious processes such as grazing and riparian clearing.	The available information on the known distribution of Southern Pygmy Perch is somewhat at odds with the indicative distribution mapping published by DPI. The indicative distribution mapping includes a significant amount of stream length in the Upper Lachlan and Murray River catchments. However, the current known range of the species in NSW is restricted to sections of three waterways in New South Wales, which include a tributary of the Lachlan River (Blakney Creek near Yass) and two tributaries of the Murray River, aside from five additional conservation	Unlikely impacts.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									stocking sites (DPI 2013, Threatened Species Scientific Committee 2021, DAWE, 2022b) the locations of which are not published. The species is considered locally extinct in the Murrumbidgee River catchment. None of the known remaining populations of Southern Pygmy Perch would be impacted by the project. It is overall unlikely that the Southern Pygmy Perch would occur within the project footprint based upon the known distribution and habitat requirements of the species. Despite this, a precautionary approach has been adopted and potential impacts to the species are considered in Section 12.5.1.	
Maccullochella macquariensis	Trout Cod		E	E				The species occurs in a variety of flowing habitats, typically in the mid to upper reaches of rivers and streams with cover in the form of woody debris or boulders (Trout Cod Recovery Team 2008). Habitats for the species require substantial amounts of large in-stream woody debris, which provides complex habitats supporting each life-cycle stage of the species (DPI 2017).	Stocking has occurred at various locations within the Murrumbidgee River with some success. Stocking attempts however within the Tumut River have been unsuccessful or at least undetermined (Lintermans, 2007, Trout Cod Recovery Team, 2008). Trout Cod has the potential to occur within the project footprint in larger streams, particularly the Murrumbidgee River.	Unlikely impacts.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
Maccullochella peelii	Murray Cod		-	V				The Murray Cod utilises a range of habitats from clear rocky streams, to slow-flowing turbid lowland rivers and billabongs, with a strong association with woody habitats and deeper flowing stream sections. Although the species may also persist in large impoundments. Murray Cod are frequently found in the main channels of rivers and larger tributaries and is considered a main-channel specialist but may occur in flood channels and anabranches during wet periods. Preferred habitats include complex structural features such as large rocks, snags, overhanging stream banks and vegetation, trees and woody structures. Riparian vegetation is important to supply structural woody habitat and providing stream bank stability.	Murray Cod has the potential to occur within the project footprint in larger streams, particularly the Murrumbidgee River. However, any population present within these stream intersecting with the project footprint would not constitute part of any important population identified in the recovery plan for the species (National Murray Cod Recovery Team, 2010). The closest important population occurs in the Murrumbidgee River between Wagga Wagga and Hay. The upstream extent of this important population (Wagga Wagga) would be over 200 km downstream of the project footprint. Furthermore, the waterways intersecting with the project footprint are not located at the limit of the species range and it is considered unlikely that any population that may occur within the project footprint would represent a key source population for breeding or necessary for maintaining the genetic diversity of the species. As such, no important populations would be impacted by the project, although it is noted that the avoidance and mitigation	Unlikely impacts.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									measures presented within this BDAR would apply to any individuals not part of the important population that may occur within the project footprint.	
Macquaria australasica	Macquarie Perch		E	E				The Macquarie Perch may occur in stream or lake habitats, with a preference for upper river reaches or tributaries, and lake dwelling individuals of the species will migrate into these habitats to spawn (DPI 2016b). Typical habitat for the species is described as being a large and moderately deep pool immediately upstream of fast-flowing broken water with aquatic vegetation and additional cover in the form of large boulders, debris and overhanging banks, with stream shading provided by steep rock faces, riparian trees or over hanging bank vegetation (Department of the Environment and Energy (DEE) 2018).	Macquarie Perch from the Murray-Darling Basin strain of the species may occur in the upstream reaches of the Lachlan, Murrumbidgee and Murray rivers. Indicative distribution mapping by DPI for the species includes the Lachlan River and Adjungbilly Creek within the project footprint, although a number of streams may be within the historic distribution of the species (DPI 2015c, DPI 2016a). The species is unlikely to occur within the Murrumbidgee River in the project footprint, with the population of this river occurring upstream, south of Canberra (DEE, 2018). Within the project footprint, the species has the moderate likelihood of occurring within the Lachlan River and Adjungbilly Creek despite the somewhat marginal nature of habitats at these locations.	Unlikely impacts.
Flora										
Acacia bynoeana	Bynoe's Wattle	E		V		BUN: 1 CRO: 1	BUN: 1 CRO: 1	Occurs in heath or dry sclerophyll forest on sandy soils. Seems to prefer open, sometimes slightly disturbed sites such as trail margins, edges of roadside spoil mounds and in recently burnt patches. Associated overstorey species	BUN: **Moderate** – 95 targeted threatened flora searches were undertaken in suitable habitat within the Bungonia IBRA	Potential for impacts to species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								include Red Bloodwood, Scribbly Gum, Parramatta Red Gum, Saw Banksia and Narrow-leaved Apple. Bynoe's wattle is found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains. The species is currently known from about 30 locations, with the size of the populations at most locations being very small (1-5 plants). It has recently been found in the Colymea and Parma Creek areas west of Nowra.	subregion portion of the project footprint. However, no individuals were identified. There are also generally low numbers of records across the broader Bungonia IBRA subregion (DPE, 2022). However, given the low number of surveys undertaken, the likelihood of occurrence is considered moderate. CRO: **Moderate**- 206 targeted threatened flora searches were undertaken in suitable habitat within the Crookwell IBRA subregion portion of the project footprint. However, no individuals were identified. There are also generally low numbers of records across the broader Crookwell IBRA subregion (DPE, 2022). However, given the low number of surveys undertaken, the likelihood of occurrence is considered moderate.	
Acacia flocktoniae	Flockton Wattle	V		V			BUN: 1	Grows in dry sclerophyll forest on sandstone. The Flockton Wattle is found only in the Southern Blue Mountains (at Mt Victoria, Megalong Valley and Yerranderie).	BUN: **Low –** Five targeted threatened flora searches were undertaken in suitable habitat within the Bungonia IBRA subregion portion of the project footprint. However, no individuals were identified. Given the species known range is limited to the Southern Blue Mountains, and there are no previous records of the species across the broader Bungonia	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									IBRA subregion (BioNet, 2022), the species is unlikely to occur in the project footprint.	
Acacia meiantha		E		E				Clarence population occurs in an open eucalypt forest (*Eucalyptus dives* and *E. sieberi*) and in an adjacent area of mainly shrubs, where tree overstorey has been cleared near power lines. Dense shrub layer is dominated by Leptospermum trinervium with *L. obovatum, Phyllota squarrosa, Banksia spinulosa and Isopogon anemonifolia.* Populations at Carcalgong and Mullions Range State Forest occur in the same broad Southern Tablelands Dry Sclerophyll Forests vegetation class composition differ. At Carcalgong *Eucalyptus rossi, E. sparsifola and E. lactea dominant with scattered E. goniocalyx*. At Mullions Range State Forest, the dominant overstorey species include *Eucalyptus rossi, E. mannifera, E. dives and E. macrorhyncha.* It is only known from three disjunct locations, all within the Central Tablelands and each separated by more than 60 km. These disjunct populations include Clarence, which covers an area of approximately 1 hectare; Mullions Range State Forest north of Orange; and Carcalgong, which is confined to 2.5 km of road easements.	INL: **Unlikely –** There are no associated PCTs mapped in the project footprint. There are no previous records pf the species across the broader Inland Slopes IBRA subregion (DPE, 2022). It is only known from three disjunct locations, all within the Central Tablelands and each separated by more than 60 km.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Acacia phasmoides	Phantom Wattle	V		V			INL: 91	Grows in shrubby woodland on sandy, granitic soil near creeks or in rocky crevices. The species is only known from one location in NSW: Woomagarma National Park in Greater Hume Shire. It is also found at Burrowa-Pine Mountain National Park in Victoria.	INL: **Low–** There are associated PCTs mapped in the project footprint. There are no previous records of the species across the broader Inland Slopes IBRA subregion (DPE, 2022). The species is known from Woomagarma National Park, approximately 60 km south-west of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Ammobium craspedioides	Yass Daisy	V		V	BON: 6 ¶INL: 723 MUR: 33	BON: 59 INL: 799	BON: 59 CRO: 17	Found in moist or dry forest communities, Box-Gum Woodland and secondary grassland derived from clearing of these communities. Grows in association with a large	CRO: **Known (133 individuals recorded) –** 10 targeted threatened flora searches were	Potential for impacts to

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
						MUR: 60	INL: 823 MUR: 71	range of eucalypts (*Eucalyptus blakelyi, E. bridgesiana, E. dives, E. goniocalyx, E. macrorhyncha, E. mannifera, E. melliodora, E. polyanthemos, E. rubida*. Apparently unaffected by light grazing, as populations persist in some grazed sites. Found in a number of TSRs, Crown reserves, cemeteries and roadside reserves within the region. Found from near Crookwell on the Southern Tablelands to near Wagga Wagga on the Southwestern Slopes. Most populations are in the Yass region.	undertaken in suitable habitat within the Crookwell IBRA subregion portion of the project footprint. 133 individuals were identified within the Crookwell IBRA subregion portion of the project footprint. INL: **High** – 124 targeted threatened flora searches were undertaken in suitable habitat within the Inland Slopes IBRA subregion portion of the project footprint. 87 individuals were identified within the Inland Slopes IBRA subregion during targeted surveys, outside of the project footprint. MUR: **Known (159 individuals recorded) –** 64 targeted threatened flora searches were undertaken in suitable habitat within the Murrumbateman IBRA subregion portion of the project footprint. 159 individuals were identified within the Murrumbateman IBRA subregion portion of the project footprint. BON: **Known (535 individuals recorded)–** Five targeted threatened flora searches (Niche) were undertaken and 1.86 km was traversed (ELA) in suitable habitat within the Bondo IBRA subregion portion of the project footprint.	species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									Individuals were recorded within PCT 299.	
Amphibromus fluitans	Floating Swamp Wallaby-grass	V		V		CRO: 2	CRO: 2 INL: 31	*Amphibromus fluitans* grows mostly in permanent swamps. The species needs wetlands which are at least moderately fertile and which have some bare ground, conditions which are produced by seasonally-fluctuating water levels. Habitats in south-western NSW include swamp margins in mud, dam and tank beds in hard clay and in semi-dry mud of lagoons with *Potamogeton* and *Chamaeraphis* species. Flowering time is from spring to autumn or November to March. *Amphibromus fluitans* appears to fruit later than the other grasses with which it grows. The flower heads remain almost hidden by the leaf sheaths until the seeds are nearly mature, and even then elongation of the stems is barely sufficient to expose the heads completely. Disturbance regimes are not known, although the species requires periodic flooding of its habitat to maintain wet conditions. Has been observed covering several hectares in area. The species is also recorded as occasional to common in populations. There are many historic collections in the City of Greater Albury. It has been recorded recently in lagoons beside the Murray River near Cooks Lagoon (Shire of Greater Hume), Mungabarina Reserve, East Albury, at Ettamogah, Thurgoona (Charles Sturt University Campus), near Narranderra, and also further west along the Murray River (near Mathoura) and in Victoria. There is a recent record of this species near Laggan in Upper Lachlan Shire. It is also found in Victoria and in Tasmania.	CRO: **Low –** There are no associated PCTs mapped in the project footprint. There are two previous records in the IBRA subregion, both of which occur within 20 km of the project footprint. Additionally, there is minimal suitable habitat for this species in the Crookwell IBRA subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint. INL: **Low –** There are no associated PCTs mapped in the project footprint. There are 31 previous records in the in the IBRA subregion, none of which occur within 20 km of the project footprint. Additionally, there is minimal suitable habitat for this species in the Inland Slopes IBRA subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Argyrotegium nitidulum	Shining Cudweed	V		V			SNO: 38	Usually found in herbfield or open heathland, above or close to the treeline. Flowers appear from December to March.	SNO: **Unlikely –** There are no associated PCTs mapped in the project footprint. Additionally, geographic restrictions to	Direct/indirect impacts to species as a result of the

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								In NSW Shining Cudweed is found only in the higher parts of Kosciuszko National Park. The species also occurs in Victoria and the South Island of New Zealand, in similarly high mountain areas.	altitudes above 1400 m. The maximum elevation of the project footprint is 1240 m asl in Snowy Mountains sub-region. Species to be excluded from assessment.	project are highly unlikely.
Austrostipa wakoolica	A spear-grass	E		E				Grows on floodplains of the Murray River tributaries, in open woodland on grey, silty clay or sandy loam soils; habitats include the edges of a lignum swamp with box and mallee; creek banks in grey, silty clay; mallee and lignum sandy-loam flat; open Cypress Pine Forest on low sandy range; and a low, rocky rise. Associated species include *Callitris glaucophylla, Eucalyptus microcarpa, E. populnea, Austrostipa eremophila, A. drummondii, Austrodanthonia eriantha and Einadia nutans*. Flowers from October to December, mainly in response to rain. Seed dispersal is mainly by wind, rain and flood events; the awn and sharp point of the floret appear to be an adaptation for burying the seed into the soil; grass seed is traditionally believed to be viable for three to five years, so a long-lived seed bank is considered unlikely for this species. Recorded as common in the Mairjimmy State Forest population. Confined to the floodplains of the Murray River tributaries of central-western and south-western NSW, with localities including Manna State Forest, Matong, Lake Tooim, Merran Creek, Tulla, Cunninyeuk and Mairjimmy State Forest (now part of South West Woodland Nature Reserve).	INL: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, the species is geographically restricted to west of Cowra.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Baloskion longipes	Dense Cord-rush	V		V				Commonly found in swamps or depressions in sandy alluvium, sometimes growing with sphagnum moss. Also occurs in swails within tall forest, and in Black Gum (*Eucalyptus aggregata*) Woodland. Produces new shoots from underground stems (rhizomes), but little is known about its biology. Dense Cord-rush has been recorded from the Kanangra-Boyd area to the Southern Tablelands but all populations are small. Populations have been recorded in Blue	BUN: **Low -** 10 surveys in January 2022; 24 in February 2022; 1 in May 2022; 5 September 2021; 55 in December 2021 (31.7 person hrs). No individuals were identified and no previous records in the IBRA subregion. Additionally, there is minimal	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Mountains National Park, Kanangra-Boyd National Park, Penrose State Forest (in Hanging Rock Swamp), Morton National Park (The Vines), the Clyde Mountain area and Ballalaba (south of Braidwood).	suitable habitat within the project footprint within Bungonia. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Boronia deanei	Deane's Boronia	V		V			BUN: 1	Grows in wet heath, often at the margins of open forest adjoining swamps or along streams. Fire ecology is poorly understood, but too intense or too frequent fires are considered a threat to this species limiting populations ability to reach maturity and set seed. There are scattered populations of Deane's Boronia between the far south-east of NSW and the Blue Mountains with the species found on Newnes Plateau (Newnes State Forest), Nalbaugh Plateau (South East National Park), Kanangra-Boyd National Park, Budderoo National Park and Morton National Park. The species mainly occurs in conservation reserves and once grew profusely in Morton National Park near Bundanoon but has rarely been seen in that area since being impacted by devastating bushfires of the 1960s. The 2019/20 black summer bushfires impacted populations at Newnes Plateau, Nalbaugh Plateau and Kanangra-Boyd National Park.	BUN: **Low -** There are no associated PCTs within the Bungonia IBRA Subregion. There is only one previous record in the IBRA subregion. However, suitable habitat occurs in the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Bossiaea fragrans		CE		CE			INL: 55	Occurs on spilite, rhyolite or slate and volcanic substrates and is often associated with Red Stringybark (*Eucalyptus macrorhyncha*) - Red Box (*Eucalyptus polyanthemos*) woodland +/- White Box (*Eucalyptus albens*). Currently only known from the Abercrombie Karst Conservation Reserve, south of Bathurst on the NSW central tablelands. It is highly restricted, with only a small number of known sub-populations.	CRO: **Low -** 26 surveys in January 2022; 88 in February 2022; 7 in March 2022; 5 in May 2022; 10 in September 2021; 59 in December 2021 (65 person hrs). No individuals were identified and no previous records in the IBRA subregion. Additionally, the species is highly restricted, and known only from the Abercrombie Karst	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									Conservation Reserve which is approximately 55 km north of the project footprint. INL: **Low:** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 11 in May-22; 124 in Oct-21; 70 in Nov-21; 135 in Dec-21 (130.7 person hrs). No individuals were identified, however associated PCTs do occur.	
Bossiaea oligosperma	Few-seeded Bossiaea	V		V			BUN: 97	Occurs on stony slopes or ridges on sandstone in the Yerranderie area. Occurs in low woodland on loamy soil in the Windellama area. Nothing is known about its ecology but it probably has hard-coated seeds that respond well to fire and soil disturbance. The Few-seeded Bossiaea is known from two disjunct areas - the lower Blue Mountains in the Warragamba area (Wollondilly, Allum, Tonalli River catchments) and the Windellama area in Goulburn Mulwaree Shire, where it is locally abundant. A 1960s record for the Araluen valley south of Braidwood is credible but has not been relocated.	BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 in Sep-21; 55 in Dec-21 (31.7 person hrs). No individuals were identified, however records do occur within the IBRA subregion (though none within 20 km of the project footprint). Additionally, the species known occurrence is restricted, and known only from the Warragamba and Windellama area, both approximately 50 km from the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Caladenia arenaria	Sand-hill Spider Orchid	E		E	INL: 1	INL: 1	INL: 6	Occurs in woodland with sandy soil, especially that dominated by White Cypress Pine (*Callitris glaucophylla*). *Caladenia arenaria* is found mostly on the southwest plains and western southwest slopes. The original description is of a plant from Nangus, west of Gundagai (1865) and there is a report of the species from Adelong near Tumut. A record near Cootamundra needs verifying. The Sand-hill Spider Orchid is currently only known to occur in the Riverina between Urana and Narranderra.	INL: **Low -** There are no associated PCTs mapped in the project footprint. Additionally, there are only six previous records in the IBRA subregion, one of which occurs within 5 km of the project footprint. .	Direct/indirect impacts to species as a result of the project are highly unlikely.
Caladenia concolor	Crimson Spider Orchid	E		V	BON: 1	BON: 7	BON: 7 INL: 504	Habitat is regrowth woodland on granite ridge country that has retained a high diversity of plant species, including other orchids. The dominant trees are Blakely's Red Gum (*Eucalyptus blakelyi*), Red Stringybark (*E.*	BON: **Low -** No targeted surveys have been undertaken for this species in the subregion. There are seven	Direct/indirect impacts to species as a result of the

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								macrorhyncha), Red Box *(E. polyanthemos*) and White Box (*E. albens*); the diverse understorey includes Silver Wattle (*Acacia dealbata*), Hop Bitter-pea (*Daviesia latifolia*), Common Beard-heath (*Leucopogon virgatus*), Spreading Flax-lily (*Dianella revoluta*) and Poa Tussock (*Poa sieberiana*).This species is deciduous, producing a leaf during autumn or winter and after flowering in spring survives the dry summer and early autumn as a dormant tuber. Flowering does not take place every year for reasons that are not fully understood, though each plant probably lives for a considerable number of years. It is likely that fire is not a direct requirement of the species, but it may have a positive influence on seedling germination and establishment. The current NSW Scientific Committee listing incorporates two populations which have each been described as separate species by D.L. Jones. One of these populations comprises a few hundred plants on private property near Bethungra and the other of about 100 plants occurs in Burrinjuck Nature Reserve. The other occurrences of the Crimson Spider Orchid in NSW are from the Nail Can Hill Crown Reserve near Albury. The species also occurs at two localities in Victoria near Beechworth and Chiltern.	previous records in the IBRA subregion, six of which occur within 20 km of the project footprint, and one of which occurs within 5 km of the project footprint. However, no associated PCTs occur in BON within the project footprint. INL: **Low -** No targeted surveys have been undertaken for this species in the subregion. There are 504 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. MUR: **Low -** 64 surveys in Sep-21 (21.3 person hrs). Associated habitat has been observed throughout the project footprint, however no previous records occur within the IBRA subregion.	project are highly unlikely.
Caladenia rosella	Rosella Spider Orchid	Ex		E			INL: 1	In Victoria, the species is found in woodlands and low forests of Red Box (*Eucalyptus polyanthemos*), Long-leafed Box (*E. goniocalyx*) and Red Stringybark (*E. macrorhyncha*) in well-drained, skeletal soils. Reproductive maturity is reached after three to five years and is maintained for up to five years after. Today the species is found near Melbourne in Victoria but is listed as endangered because less than 200 plants are known to exist.	INL: **Low –** Whilst no targeted surveys have been undertaken for this species in the subregion, there is only one previous record in the IBRA subregion. This record does not occur within 20 km of the project footprint. The likelihood of occurrence is therefore considered low.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Caladenia tessellata	Thick Lip Spider Orchid	E		V			INL: 1 MUR: 2	Generally found in grassy sclerophyll woodland on clay loam or sandy soils, though the population near Braidwood is in low woodland with stony soil. The single leaf regrows each year. Flowers appear between	BUN: **Low -** 5 surveys in Sep-21 (1.7 person hrs). Was not identified during targeted	Direct/indirect impacts to species as a result of the

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								September and November (but apparently generally late September or early October in extant southern populations). The Thick Lip Spider Orchid is known from the Sydney area (old records), Wyong, Ulladulla and Braidwood in NSW. Populations in Kiama and Queanbeyan are presumed extinct. It was also recorded in the Huskisson area in the 1930s. The species occurs on the coast in Victoria from east of Melbourne to almost the NSW border.	surveys. There are no previous records in the IBRA subregion. INL: **Low –** Only one record in the broader IBRA subregion and none within 20 km of the project footprint. MUR: **Low -** Only two records in the broader IBRA subregion and none within 20 km of the project footprint.	project are highly unlikely.
Callitris oblonga	Pygmy Cypress Pine	V		V			BUN: 24	Usually grows in sand along watercourses in shrubland and open woodland in granite country; it also occurs in drier sites, including exposed ridges. Plants are naturally killed by flood-waters, but seed germinates readily and mature plants are quickly replaced. A fast-growing species, which is killed by fire. Pygmy Cypress Pine is represented by two subspecies in NSW and one in Tasmania. The subspecies parva occurs in northern NSW on the eastern edge of the New England Tablelands and the subspecies corangensis is only known to occur naturally in the Corang River catchment.	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. There are 24 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Calotis glandulosa	Mauve Burr-daisy	V		V			SNO: 151	Found in montane and subalpine grasslands in the Australian Alps. Found in subalpine grassland (dominated by *Poa spp.*), and montane or natural temperate grassland dominated by Kangaroo Grass (*Themeda australis*) and Snow Gum (*Eucalyptus pauciflora*) Woodlands on the Monaro and Shoalhaven area. Appears to be a coloniser of bare patches, which explains why it often occurs on roadsides. Apparently common on roadsides in parts of the Monaro, though it does not persist for long in such sites. Does not persist in heavily-grazed pastures of the Monaro or the Shoalhaven area. Dispersed by animals which carry the sticky burrs to new sites. The distribution of the Mauve Burr-daisy is centred on the Monaro and Kosciuszko regions. There are three	SNO: **Low -** 19 surveys in Jan-22; 9 in Mar-22; 32 in Nov-21 (20 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 151 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								known sites in the upper Shoalhaven catchment. There are old and possibly dubious records from near Oberon, the Dubbo area and Mt Imlay.		
Commersonia prostrata	Dwarf Kerrawang	E		E			BUN: 11	Occurs on sandy, sometimes peaty soils in a wide variety of habitats: Snow Gum (*Eucalyptus pauciflora*) Woodland and Ephemeral Wetland floor at Rowes Lagoon; Blue leaved Stringybark (*E. agglomerata*) Open Forest at Tallong; and in Brittle Gum (*E. mannifera*) Low Open Woodland at Penrose; Scribbly Gum (*E. haemostoma*)/ Swamp Mahogany (*E. robusta*) Ecotonal Forest at Tomago. Associated native species may include *Imperata cylindrica, Empodisma minus* and *Leptospermum continentale*. Appears to respond positively to some forms of disturbance (e.g. some Victorian records are from gravel road surfaces and the Tomago population is on an area previously subject to sandmining), however, there are conflicting reports about the response of the species to fire. The population at the Thirlmere lakes is most abundant in the areas of prior lake bed exposed by the dropping water levels. It is uncertain how long this may remain the case, as many of the individuals are very large, growing among the decomposing bases of bulrushes. It is also found among wattle thickets in the drainage line between the lakes. Dwarf Kerrawang occurs on the Southern Highlands and Southern Tablelands (one plant at Penrose State Forest plant at Tallong, a small population near the Corang and about 2000 plants at Rowes Lagoon), a larger population in the Thirlmere Lakes area (particularly among the dying reeds at the edge of the water), and on the North Coast (less than 100 plants at the Tomago sandbeds north of Newcastle). It is also found in Victoria.	BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 in Sep-21; 55 in Dec-21 (31.7 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 11 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint. Further, no associated PCTs in the BUN portion of the project footprint. CRO: **Low -** 26 surveys in Jan-22; 88 in Feb-22; 7 in Mar-22; 5 in May-22; 10 in Sep-21; 59 in Dec-21 (65 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are no previous records in the IBRA subregion, however the species is predicted to occur in the subregion. The survey effort is considered sufficient	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Dichanthium setosum	Bluegrass	V		V			INL: 3	Flowering time is mostly in summer. Associated with heavy basaltic black soils and red-brown loams with clay subsoil. Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. (Often collected from disturbed open grassy woodlands on the northern tablelands, where the habitat has been variously grazed, nutrient-enriched and water-enriched). It is open to question whether the species tolerates or is promoted by a certain amount of disturbance, or whether this is indicative of the threatening processes behind its depleted habitat. Associated species include *Eucalyptus albens, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus viminalis, Myoporum debile, Aristida ramosa, Themeda triandra, Poa sieberiana, Bothriochloa ambigua, Medicago minima, Leptorhynchos squamatus, Lomandra* aff. *longifolia*, *Ajuga australis, Calotis hispidula* and *Austrodanthonia, Dichopogon*, *Brachyscome, Vittadinia, Wahlenbergia* and *Psoralea* species. Locally common or found as scattered clumps in broader populations. The extensive distribution and wide environmental tolerances make predictions about suitable habitat difficult. Bluegrass occurs on the New England Tablelands, North West Slopes and Plains and the Central Western Slopes of NSW, extending to northern Queensland. It occurs widely on private property, including in the Inverell, Guyra, Armidale and Glen Innes areas.	INL: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally there are only three previous records in the IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Diuris aequalis	Buttercup Doubletail	E		E		CRO: 34	BUN: 2 CRO: 44	Recorded in forest, low open woodland with grassy understorey and secondary grassland on the higher parts of the Southern and Central Tablelands (especially on the Great Dividing Range).Leaves die back each year and resprout just before flowering. Populations tend to contain few, scattered individuals; despite extensive	BUN: **Low -** No targeted surveys have been undertaken for this species in the subregion. There are two previous records in the IBRA subregion, however these	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								surveys, only about 2000 plants in total, from 20 populations are known. The buttercup doubletail has been recorded in Kanangra-Boyd National Park, Gurnang State Forest, towards Wombeyan Caves, the Taralga - Goulburn area, and the ranges between Braidwood, Tarago and Bungendore. The type location (from the 19th Century) is Liverpool, west of Sydney. However, this and other questionable records from the Sydney metropolitan area are unlikely based on current knowledge of the species.	records do not occur within 20 km of the project footprint. CRO: **Low -** No targeted surveys have been undertaken for this species in the subregion. There are 44 previous records in the IBRA subregion, 34 of these occur within 20 km of the project footprint and 20 of these occur within 5 km of the project footprint. However, no associated PCTs occur in the CRO portion of the project footprint.	
Diuris ochroma	Pale Golden Moths	E		V			BUN: 2 SNO: 64	Open grassy woodland of *Eucalyptus viminalis / E. pauciflora* or *E. pauciflora / E. parvula* (or secondary grassland). Also found in sub-alpine grassland. Recorded in south-eastern NSW on the sub-alpine plains of Kosciuszko National Park and the Kybean area. Also recorded in eastern Victoria.	BUN: **Low –** Only two records in the broader IBRA subregion, none of which are within 20 km of the project footprint. SNO: **Low -** 19 surveys in January 2022 (6.3 person hrs). No individuals were identified and no previous records in proximity to the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Epacris gnidioides	Budawangs Cliff-heath	V		V			BUN: 3	Grows in skeletal soil in sandstone crevices or on sandy ledges beneath cliffs, on the margins of open forest and heathland. The Budawang Cliff-heath has only been recorded in the Northern Budawang Range west of Ulladulla (e.g. Hidden Valley, The Castle, Nibelung Crags, Ettrema Canyon, Mt Sturgess).	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, the species has only been recorded in the Northern Budawang Range, which is approximately 90 km south of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Eucalyptus aggregata	Black Gum	V		V	CRO: 1	BUN: 3 CRO: 34 INL: 1	BUN: 49 CRO: 52 INL: 1	Black Gum is found in the NSW Central and Southern Tablelands, with small, isolated populations in Victoria and the ACT. In NSW it occurs in the Southeastern Highlands Bioregion and on the western fringe of the	BUN: **Moderate -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 Sep-21; 55 in Dec-21 (31.7 person hrs). There are a	Potential for impacts to

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Sydney Basin Bioregion. Black Gum has a moderately narrow distribution, occurring mainly in the wetter, cooler and higher parts of the tablelands, for example in the Blayney, Crookwell, Goulburn, Braidwood and Bungendore districts.	few records across the broader Bungonia IBRA subregion (BioNet 2022), however none occur within 5 km of the project footprint. Given the low number of surveys undertaken, the likelihood of occurrence is considered moderate. CRO: **High -** 26 surveys in Jan-22; 88 in Feb-22; 7 in Mar-22; 5 in May-22; 10 in Sep-21; 59 in Dec-21 (65 person hrs). There are 52 records across the broader Crookwell IBRA subregion (BioNet 2022), 34 of which occur within 20 km of the project footprint and one of which occurs within 5 km of the project footprint. Given the low number of surveys undertaken, the likelihood of occurrence is considered high. MUR: **Moderate -** 30 surveys in Feb-22; 3 in Mar-22; 3 in May-22; 138 in Sep-21; 72 in Oct-21; 89 in Nov-21; 150 in Dec-621 (463.37 person hours). No previous records of the species in MUR. Given the low number of surveys undertaken, the likelihood of occurrence is considered moderate. INL: **Low -** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 11 in	species habitat.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
									May-22; 124 in Oct-21; 70 in Nov-21; 135 in Dec-21 (130.7 person hrs). There is only one previous record within the IBRA subregion which is not within 5 km of the project footprint. Given this species is conspicuous, it is likely to have been recorded either during the threatened flora surveys and/or initial vegetation mapping where canopy species were heavily relied on to confirm PCT ID. Given the moderate survey effort and the conspicuous nature of the species, the likelihood of occurrence is low.	
Eucalyptus alligatrix subsp. *alligatrix*	*Eucalyptus alligatrix* subsp. *alligatrix*	V		V			INL: 2	The population is confined to an area of a few hectares where an estimated 3,000 to 4,500 trees survive. Most of the population consists of moderately dense regenerating stands following previous clearing, but there are also larger scattered paddock trees, probably pre-dating European settlement. Grows in dry sclerophyll woodland on shallow relatively infertile soils (grey brown loam with ironstone). It may have been part of a more-extensive open woodland community prior to the commencement of clearing and grazing. Associated trees include *Eucalyptus macrorhyncha, Eucalyptus blakelyi, Eucalyptus viminalis, Eucalyptus bridgesiana, Eucalyptus melliodora, Eucalyptus rossii and Angophora floribunda.* Only known from a single location south-west of Rylstone; however, the species has reportedly been widely propagated and planted in the Rylstone area.	INL: **Low -** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 11 in May-22; 124 in Oct-21; 70 in Nov-21; 135 in Dec-21 (130.7 person hrs). There are two previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. Given this species is conspicuous, it is likely to have been recorded either during the threatened flora surveys and/or initial vegetation mapping where canopy species were heavily relied on to confirm PCT ID. Given the moderate survey effort and the conspicuous nature of the species, the likelihood of occurrence is low.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
Eucalyptus glaucina	Slaty Red Gum	V		V			BUN: 7	Grows in grassy woodland and dry eucalypt forest. Grows on deep, moderately fertile and well-watered soils. Found only on the north coast of NSW and in separate districts: near Casino where it can be locally common, and farther south, from Taree to Broke, west of Maitland.	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are only seven previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. Given this species is conspicuous, it is likely to have been recorded either during the threatened flora surveys and/or initial vegetation mapping where canopy species were heavily relied on to confirm PCT ID.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Eucalyptus macarthurii	Paddys River Box, Camden Woollybutt	E		E		BUN: 10	BUN: 18	Occurs on grassy woodland on relatively fertile soils on broad cold flats. Paddy's River Box has a moderately restricted distribution. It is currently recorded from the Moss Vale District to Kanangra-Boyd National Park. In the Southern Highlands it occurs mainly on private land, often as isolated individuals in, or on the edges of roads and paddocks. It is not well reserved but does occur within Cecil Hoskins Nature Reserve in the Southern Highlands. In Kanangra-Boyd National Park isolated stands occur in the northwest part of the range on the Boyd Plateau.	BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 Sep-21; 55 in Dec-21 (31.7 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 18 previous records in the IBRA subregion, 10 of which occur within 20 km of the project footprint. Given this species is conspicuous, it is likely to have been recorded either during the threatened flora surveys and/or initial vegetation mapping where canopy species were heavily relied on to confirm PCT ID. Given the moderate survey effort and the conspicuous nature of the species, the likelihood of occurrence is low.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
Eucalyptus recurva	Mongarlowe Mallee	CE		CE			BUN: 22	Found in shallow soils on gentle slopes in low heathland and in some cases at the margins of the heathland and adjacent low woodland; the woodlands are dominated by Brittle Gum (*Eucalyptus mannifera*) and Snow Gum (*E. pauciflora*), but scattered Candlebark (*E. rubida*) and Broad-leafed Peppermint (*E. dives*) trees are also nearby at some sites; in the Mongarlowe area the heathland is dominated by Stunted She-oak (*Allocasuarina nana*), with emergent shrubs of Finger Hakea (*Hakea dactyloides*). Flowering occurs in January, but very few seeds are set so the chances of recruitment of new individuals in the field is low. Seed germinated from naturally set seed has mostly produced hybrids, showing that there is a low level of cross pollination occurring with a few other locally occurring eucalypt species. The very few seedlings that have germinated from naturally set seed that appear to have been pure Mongarlowe Mallee plants have lacked vigour and ultimately died. This is not uncommon in eucalypts where self -pollination has occurred. Efforts by CSIRO to cross-pollinate the two plants near Mongarlowe to produce viable seed and to propagate the species using grafting and tissue culture techniques in 1992 were unsuccessful. Subsequent hand cross-pollination (using a modified method) of four of the individuals by DPIE staff in 2001 and 2002 were successful in producing significant quantities of viable seed. The hand pollinated branches were not bagged at that time and so only about half the seed that was sown produced what appeared to be pure Mongarlowe Mallee plants whilst about half were clearly hybrids. This work demonstrated that the species is not inherently sterile and has the capacity to be propagated using this method. The size and spread of the lignotubers (woody underground structures) suggests that some of the plants are of considerable age, probably several hundred years. The Mongarlowe Mallee is confined to the NSW Southern Tablelands where it is known from only four locations. Three of these occur near Mongarlowe (with at least a two km separation between the sites) and the third is	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are 22 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. Given this species is conspicuous, it is likely to have been recorded either during the threatened flora surveys and/or initial vegetation mapping where canopy species were heavily relied on to confirm PCT ID.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								about 30 km away near Windellama. Three of these sites support only single plants, whilst the other has three individuals present - the total known population of this species is thus only six individuals. Genetic analysis by CSIRO has confirmed that each mallee clump is comprised of a single individual (genotype). It is likely that these individuals represent a relict of a more widespread ancestor, and it is unlikely that many more individuals of the species remain undiscovered.		
Eucalyptus robertsonii subsp. *hemisphaerica*	Robertson's Peppermint	V		V			CRO: 1	Locally frequent in grassy or dry sclerophyll woodland or forest, on lighter soils and often on granite. Usually found in closed grassy woodlands in locally sheltered sites. Habitats include quartzite ridges, upper slopes and a slight rise of shallow clay over volcanics. Associated vegetation includes variously mixed woodlands of *Eucalyptus piperita*, *E. goniocalyx*, *E. dalrympleana*, *E. dives*, *E. mannifera* and *E. rossii*. Flowering period is February to March. Seed is dispersed locally by wind, and there is no dormancy mechanism. Plants resprout from epicormic buds after fire. A specimen from the Mullion Creek locality was observed to be suckering freely from base to crown after fire. Populations are usually highly localised, with trees recorded as frequent in populations. Known only from the central tablelands of NSW, at small disjunct localities from north of Orange to Burraga.	CRO: **Low -** 26 surveys in Jan-22; 88 in Feb-22; 7 in Mar-22; 5 in May-22; 10 in Sep-21; 59 in Dec-21 (65 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There is one previous record in the IBRA subregion, this record does not occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint. INL: **Low -** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 11 in May-22; 124 in Oct-21; 70 in Nov-21; 135 in Dec-21 (130.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									for the project. There are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Euphrasia arguta	Euphrasia arguta	CE		CE			INL: 1	Historic records of the species noted the following habitats: 'in the open forest country around Bathurst in sub humid places', 'on the grassy country near Bathurst', and 'in meadows near rivers'. Plants from the Nundle area have been reported from eucalypt forest with a mixed grass and shrub understorey; here, plants were most dense in an open disturbed area and along the roadside, indicating the species had regenerated following disturbance. The number of plants at a given site may vary over time depending on the season and disturbance history. Near Nundle, local populations had apparently declined at sites that had been disturbed twice within three years, in contrast with sites that were disturbed only once. *Euphrasia arguta* has an annual habit and has been observed to die off over the winter months, with active growth and flowering occurring between January and April. As with other species of Euphrasia, this species is semi-parasitic and attaches to the roots of other associated plants. Euphrasia arguta was rediscovered in the Nundle area of the NSW north western slopes and tablelands in 2008. Prior to this, it had not been collected for 100 years. Historically, *Euphrasia arguta* has only been recorded from relatively few places within an area extending from Sydney to Bathurst and north to Walcha. The Royal Botanic Gardens Specimen Register records an additional location reported and vouchered in 2002 from near the	INL: **Low -** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 70 in Nov-21; 135 in Dec-21 (85.6 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There is one previous record in the IBRA subregion, this record does not occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Hastings River; and Euphrasia arguta was also recorded from the Barrington Tops in 2012.		
Euphrasia collina subsp. *muelleri*	Mueller's Eyebright	E		E				Little is known about the habitat this species preferred, although there is a reference to "damp places" in an early von Mueller collection. Extant populations in Victoria occur in heathy woodland. Flowering has generally been recorded in spring and early summer, although the flowering collection from Dorrigo in 1904 was made in July. The most recent collection in NSW (Tinderry Range and Tamworth area) were made with flowers and fruit in late December / early January. Once widespread in south-eastern Australia, Mueller's Eyebright is now known only from the Mornington Peninsula near Melbourne. In NSW it was recorded more than 100 years ago in the upper Murray and McIntyre Rivers and near Dorrigo and Cootamundra. The only NSW collections in the past 50 years were made in the vicinity of the Tinderry Range between Canberra and Cooma (1970) and between Uralla and Tamorth (1987).	INL: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Glycine latrobeana	Clover Glycine	CE		V			SNO: 8	The Clover Glycine occurs mainly in grassland and grassy woodland habitats, less often in dry forests, and only rarely in heathland. Populations occur from sea level to c. 1,200 m altitude 6 (900 m in Tasmania). In Victoria, plants grow in a range of soil types including alluvial soils, and those derived from sandstones, mudstones, granite and basalt. Soils are usually clay, but may also have high loam content. Tasmanian populations occur on a well-drained basalt, dolerite or sandstone substrates (Lynch 1994). The NSW population is in subalpine grassland (at about 1300 m asl).	SNO: **Low -** 19 surveys in Jan-22; 32 in Nov-21 (17 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are eight previous records in the IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Grevillea iaspicula	Wee Jasper Grevillea	CE		E		BON: 24	BON: 30 MUR: 36	Grows on rocky limestone outcrops and around sink holes and cave entrances. Vegetation is open woodland dominated by White Box (*Eucalyptus albens*) and Apple Box (*E. bridgesiana*). Often occurs as a co-dominant species within the shrubby understorey of its open woodland habitat. Flowering is mostly in winter and spring. The species readily sets seeds and these ripen in	BON: **Low** – There is no associated habitat (PCTs) mapped within the Bondo IBRA Subregion. MUR: **Low -** 29 surveys in Feb-22; 3 in Mar-22; 3 in May-22;	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								late December. Recruitment is episodic and dependent on favourable seasonal conditions, but in favourable conditions and where stock grazing is excluded seedling establishment can be reasonably plentiful. The Wee Jasper Grevillea is found only in the Wee Jasper area and on the shores of Lake Burrinjuck near Burrinjuck village on the border of the Southern Tablelands and South Western Slopes. Although there is no evidence that the Grevillea was widespread in the recent past, it is possible that some of its original population was submerged following the damming of Lake Burrinjuck.	64 in Sep-21; 38 in Oct-21; 87 in Nov-21; 150 in Dec-21 (124.7 person hrs). The species is unlikely to occur in the project footprint based on the species distribution being restricted to Wee Jasper- Burrinjuck. Additionally, the species was not identified during targeted surveys and has not been incidentally identified during any other flora surveys for the project. There are 36 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint.	
Grevillea wilkinsonii	Tumut Grevillea	CE		E		INL: 17	INL: 17	At the Goobarragandra River sites the species generally grows in close proximity to the water, at altitudes between 310 and 340 m. Most healthy adult plants occur in open sunny areas, and those plants found under the canopy of dense vegetation tend to be spindly and are sometimes subject to sooty mould infestations. The associated native vegetation in the Goobarragandra sites are typically remnant riverine shrub communities adjacent to open-forest, with the most common tree species being Blakely's Red Gum (*Eucalyptus blakelyi*), Apple Box (*E. bridgesiana*), Yellow Box (*E. melliodora*), and Red Stringybark (*E. macrorhyncha*) and with Kurrajongs (*Brachychiton populneus*) sometimes growing in nearby paddocks. The population at Gundagai is growing on the upper slope of a steep hill on Serpentinite rock. The associated native vegetation at this site is a grassy White Box (*Eucalyptus albens*) woodland with scattered shrubs of Pink Wedding Bush (*Ricinocarpos bowmanii*) and Hop Bush (*Dodonaea viscosa*). The groundcover is dominated by Kangaroo Grass (*Themeda triandra*) and Snow Grass (Poa sieberiana). lowers from mid-September to mid-October, with individual flower	INL: **Low -** 124 surveys in Oct-21 (41.3 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 17 previous records in the IBRA subregion, all of which occur within 20 km of the project footprint, however none occur within 5 km of the project footprint. Given the conspicuous nature of the species, it's highly restricted distribution to the Goobarragandra River (that does not intersect the project footprint), the survey effort is considered sufficient to consider this species likelihood of occurrence as low within	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								clusters lasting for about two weeks from when the first individual flowers in the cluster open. Flowers have a strong and rather unpleasant smell, not unlike the smell of mice urine; most species of "toothbrush grevilleas" are adapted to bird pollination, but this species is primarily insect pollinated. Seedlings usually commence flowering once they are two or three years old. Most sites contain individuals of varying ages and numerous seedlings have been observed at some sites. The species recruits most readily where there is some bare ground. Recruitment rarely occurs where there is a dense grass groundcover. Fruits mature during December and split longitudinally down one side to release the seed. Individual plants often produce several hundred seeds each year, although in some years much of the ripening seed is eaten by parrots. The seed in this species has a lengthy dormancy, with germination usually taking between one and two years after sowing. The Tumut Grevillea has a highly restricted distribution in the NSW South-west Slopes region. Its main occurrence is along a 6 km stretch of the Goobarragandra River approximately 20 km east of Tumut where about 1,000 plants are known. The other occurrence is a small population that straddles the boundary of two private properties at Gundagai where only eight mature plants survive.	this subregion of the project footprint.	
Hakea dohertyi	Kowmung Hakea	E		E			BUN: 3	Kowmung Hakea grows in dry sclerophyll forest, usually dominated by grey gum or silvertop ash, with a sparse groundcover and midstorey. It is an obligate seeder - i.e. it is killed by fire. The fruit are possibly susceptible to fire also, and seed may be killed within the follicle with even moderate heating. Seed is stored in woody fruits on mature plants and is released after fire or death of the stem. Older follicles are retained on the plant and open as a result of secondary thickening. The seeds are often still viable and germinating and immature plants may be found within the population. No particular age cohorts are evident in the populations. Two smaller populations	BUN: **Unlikely -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 Sep-21; 55 in Dec-21 (31.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are three previous records in the IBRA subregion, none of which occur	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								are found at a distance from the main population, on the north side of Bent Hook Swamp (leading up to the ridge) and near the Tonalli Cove of Lake Burragorang. All populations appear to favour shrubby woodland communities. Kowmung Hakea is confined to a small area (18 sq. km) in the Kowmung Valley in Kanangra Boyd National Park. Population varies, but up to 7000 plants have been counted. Additional small populations occur in Bindook area and at Tonalli Cove on Lake Burragorang.	within 20 km of the project footprint. Given the conspicuous nature of the species, and its restricted distribution 30 km north of the project footprint, the survey coverage is considered sufficient.	
Haloragis exalata subsp. *exalata*	Square Raspwort	V		V				Square Raspwort appears to require protected and shaded damp situations in riparian habitats. Flowering specimens in NSW are recorded from November to January. Square Raspwort occurs in 4 widely scattered localities in eastern NSW. It is disjunctly distributed in the Central Coast, South Coast and North-western Slopes botanical subdivisions of NSW.	SNO: **Low -** 19 surveys in Jan-22; 9 in Mar-22; 32 in Nov-21 (20 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Homoranthus darwinioides	Fairy Bells	V		V				Grows in in various woodland habitats with shrubby understoreys, usually in gravely sandy soils. Landforms the species has been recorded growing on include flat sunny ridge tops with scrubby woodland, sloping ridges, gentle south-facing slopes, and a slight depression on a roadside with loamy sand. Associated species include *Callitris endlicheri, Eucalyptus crebra, E. fibrosa, C. trachyphloia, E. beyeri* subsp. *illaquens, E. dwyeri, E. rossii, Leptospermum divaricatum, Melaleuca uncinata, Calytrix tetragona, Allocasuarina* sp. and *Micromyrtus* sp. Flowers in spring or from March to December. The species has been cultivated in Sydney from Rylstone cuttings and at Burrendong Arboretum near Wellington. Forms small shrubs or shrublets, often in tangled masses. It has a localised distribution and may be the dominant	INL: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion. The survey effort is considered sufficient within this subregion of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								undershrub at some sites. Its abundance in populations ranges from rare (only one plant at site) to locally very abundant. Rare in the central tablelands and western slopes of NSW, occurring from Putty to the Dubbo district. It is found west of Muswellbrook between Merriwa and Bylong, and north of Muswellbrook to Goonoo SCA. The species has been collected from Lee's Pinch, but not relocated at its original locality north of Mt Coricudgy above the headwaters of Widden Brook.		
Indigofera efoliata	Leafless Indigo	E		E			INL: 3	Dies back to a substantial underground rootstock in unfavourable seasons and it is possible that aerial parts do not appear at all unless there is significant rainfall. Associated species include *Allocasuarina luehmannii, Exocarpos cupressiformis, Alectryon oleifolius, Geijera parviflora, Eucalyptus melliodora, Acacia deanei, Acacia buxifolia, Acacia hakeoides, Acacia spectabilis, Acacia lineata, Acacia oswaldii, Eremophila mitchellii, Myoporum platycarpum, Hakea leucoptera, Dodonaea viscosa, Apophyllum anomalum, Cassinia aculeata* and *Lissanthe strigosa*. Herbarium records indicate that Indigofera efoliata flowers from August to October and fruits from November to February. Recorded in Goonoo State Forest in *Eucalyptus crebra* and *Callitris glaucophylla* dry sclerophyll forest, and in *Eucalyptus microcarpa* and *Callitris glaucophylla* tall woodland. Herbarium records note the species as growing on slight rises amongst ironstone formation in stony red-brown sandy loam. Very rare and was presumed extinct having not being seen since 1963 until a discovery in 2021, known only from a few collections in the Dubbo area. Mr E.F. Biddiscombe was the only person alive to have seen *Indigofera efoliata* in the wild. In spring 2021 the species was rediscovered near Geurie. Known sites were located along the Dubbo to Minore railway line and road, on Wallaringa and Geurie properties and in Goonoo State Forest.	INL: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are only three previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. the project footprint is approximately 200 km south of any known populations of the species.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
Kunzea cambagei	Cambage Kunzea	V		V		BUN: 4	BUN: 4	Cambage Kunzea is restricted to damp, sandy soils in wet heath or mallee open scrub at higher altitudes on sandstone outcrops or Silurian group sediments. Flowering occurs between September and November. *Kunzea cambagei* mainly occurs in the western and southern parts of the Blue Mountains, NSW, mainly the Yerranderie/Mt Werong area, with four main populations with 20 to 150 individuals. Populations are also located west of Berrima, along the Wingecarribee River; Loombah Plateau east of Mount Werong; the Oberon-Colong Stock Route within Kanangra-Boyd National Park (NP); and Wanganderry Plateau within the Nattai NP.	BUN: **Moderate** - No targeted surveys have been undertaken for this species in the subregion. This species has not been incidentally identified during any other flora surveys for the project. There are four previous records in the IBRA subregion, all of which occur within 20 km of the project footprint.	Potential for impacts to species habitat.
Lepidium hyssopifolium	Aromatic Peppercress	E		E			CRO: 2 MUR: 1	In NSW the species was known to have occurred in both woodland with a grassy understorey and in grassland. The species may be a disturbance opportunist, as it was discovered at the most recently discovered site (near Bungendore) following soil disturbance. The cryptic and non-descript nature (appearing like several weed species) of the species makes it hard to detect. In NSW, there is a small population near Bathurst, one population at Bungendore, and one near Crookwell. The species was also recorded near Armidale in 1945 and 1958; however it is not known whether it remains in this area. A specimen collected in the Cooma area about 100 years ago may also be Aromatic Peppercress.	CRO: **Low -** 59 surveys in Dec-21 (19.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. However, there are two previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. MUR: **Low -** there is only one previous record in the IBRA subregion, and it does not occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Leptospermum thompsonii	Monga Tea Tree	V		V			BUN: 17	Monga Tea-tree is found in swamps and drainage lines. It also invades road verges. Flowering occurs mainly in summer. It is killed by fire. Plants are fast-growing (reaching reproductive maturity within about 5 years). Establishment from seed was poor following a recent fire. The species is mostly found in Monga National Park near Braidwood. Two populations have also been recorded in Morton National Park to the north (near The Vines).	BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 Sep-21; 55 in Dec-21 (31.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 17	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Leucochrysum albicans var. *tricolor*	Hoary Sunray	-		E	CRO: 8 ¶ INL: 1 ¶MUR: 55	CRO: 43 INL: 2 MUR: 61	BUN: 68 CRO: 57 INL: 33 MUR: 120 SNO: 1	Occurs in a wide variety of grassland, woodland, and forest habitats, generally on relatively heavy soils. Can occur in modified habitats such as semi-urban areas and roadsides. Highly dependent on the presence of bare ground for germination. In some areas, disturbance is required for successful establishment.	BON: **Low -** 5 surveys in Nov-21 (1.7 person hours). No individuals were recorded, and no previous records within the broader IBRA subregion. BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 5 in Sep-21; 55 in Dec-21 (31.3 person hrs). No individuals were identified during surveys. There are 68 previous records within the broader IBRA subregion, however none occur within 20 km of the project footprint. CRO: **Known (recorded) -** 26 surveys in Jan-22; 88 in Feb-22; 7 in Mar-22; '10 in Sep-21; 59 in Dec-21 (63.3 person hrs). A total of 29,631 individuals were recorded across the Crookwell IBRA subregion portion of the project footprint. INL: **Low -** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 124 in Oct-21; 70 in Nov-21; 135 in Dec-21 (127 person hrs). No individuals were recorded. There are 33 previous records	Potential for impacts to species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									within the broader IBRA subregion, however only one occurs within 5 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint. MUR: **Known (recorded) -** 29 surveys in Feb-22; 3 in Mar-22; 64 in Sep-21; 38 in Oct-21; 87 in Nov-21; 150 in Dec-21 (123.7 person hrs). A total of 113,369 individuals were identified across the Murrumbateman IBRA subregion portion of the project footprint. SNO: **Low -** 19 surveys in January 2022, 9 in March 2022, and 32 in November 2021 (20 person hours). No individuals were recorded, and only one previous record occurs within the broader IBRA subregion. The record does not occur within 20 km of the project footprint.	
Persoonia marginata	Clandulla Geebung	V		V				Grows in dry sclerophyll forest and woodland communities on sandstone. Recorded flowering period varies and includes December and Winter. Fruit is probably dispersed by large birds such as Currawongs and large mammals such as kangaroos and possums. Reported fire response of adult plants varies with the species sometimes resprouting after fire and at other times killed by fire. Has a persistent soil stored seed bank. May initially respond favourably to disturbance,	INL: **Low -** 7 surveys in January 2022; 4 in February 2022, and 41 in March 2022 (17.3 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. Given the species conspicuous nature	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								with greater densities found along the edges of tracks and in areas disturbed by forestry activities. The Clandulla Geebung occurs between Kandos and Clarence in the western Blue Mountains. Populations are largely disjunct and include Clandulla, Ben Bullen and Sunny Corner State Forests; isolated populations have also been recorded from Turon and Gardens of Stone National Parks.	and the fact there are no previous records in the IBRA subregion, the species has a low likelihood of occurring in the project footprint.	
Phyllota humifusa	Dwarf Phyllota	V		V				The species occurs in dry sclerophyll forest, sometimes near swamps, in deep sandy soils or gravely loams over a sandstone substrate. Accompanying trees are often Brittle Gum *Eucalyptus mannifera*, Narrow-leafed Peppermint *E. radiata* or Sydney Peppermint *E. piperita*. Plants apparently resprout following fire. Dwarf Phyllota is known from the southern Blue Mountains (Bimlow Tableland), the Joadja area west of Mittagong and Penrose area near Paddys River.	BUN: **Low -** 10 surveys in Jan-22; 55 in Dec-21 (21.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. Whilst this species is predicted to occur in Bungonia, there are no previous records in the subregion.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Plinthanthesis rodwayi	Budawangs Wallaby Grass	CE		V				Budawangs Wallaby-grass has been recorded in open heathland on shallow soils. The extent of the two populations has apparently contracted greatly in the past 25 years. The species appears be restricted to two peaks in Budawang NP (Mt Budawang, Mt Currockbilly).	BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 55 in Dec-21 (29.7 person hrs). The species not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. Whilst this species is predicted to occur in Bungonia, there are no previous records in the subregion, additionally, the known records are approximately 90 km south of the project footprint. Given this, the likelihood of occurrence for this species is low.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
Pomaderris brunnea	Brown Pomaderris	E		V			BUN: 4	Brown Pomaderris grows in moist woodland or forest on clay and alluvial soils of flood plains and creek lines. Flowers appear in September and October. The species is expected to live for 10 - 20 years, while the minimum time to produce seed is estimated to be 4 - 6 years. The species has been found in association with *Eucalyptus amplifolia, Angophora floribunda, Acacia parramattensis, Bursaria spinosa* and *Kunzea ambigua*. Brown Pomaderris is found in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area and near Camden. It also occurs near Walcha on the New England tablelands and in far eastern Gippsland in Victoria.	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are only four previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. The species Brown Pomaderris is associated with, have either not been recorded, or recorded in low abundance in the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Pomaderris cotoneaster	Cotoneaster Pomaderris	E		E		BUN: 110	BON: 11 BUN: 161	Cotoneaster Pomaderris has been recorded in a range of habitats in predominantly forested country. The habitats include forest with deep, friable soil, amongst rock beside a creek, on rocky forested slopes and in steep gullies between sandstone cliffs. Little is known about the ecology of the species. It is probably killed by fire but plants have been observed to re-sprout from the stem following death of the crown from apparent drought. Populations tend to be isolated and range in size from a few individuals to many hundreds. Populations are not apparently influenced by local variations in habitat - it is not obvious why they are only growing where they are. Cotoneaster Pomaderris has a very disjunct distribution, being known from the Nungatta area, northern Kosciuszko National Park (near Tumut), the Tantawangalo area in South-East Forests National Park and adjoining freehold land, Badgery's Lookout near Tallong, Bungonia State Conservation Area, the Yerranderie area, Kanangra-Boyd National Park, the Canyonleigh area and Ettrema Gorge in Morton National Park. The species has also been recorded along the Genoa River in Victoria.	BON: **Low -** 5 surveys in Nov-21 (1.7 person hours). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 11 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. This species is geographically constrained to occurring south of the Northern Kosciusko National Park boundary in the subregion. BUN: **Moderate -** No targeted surveys have been undertaken for this species in the subregion. There are 161 previous records in the IBRA subregion, 110 of which occur within 20 km of the project footprint, however none occur within 5 km of the project	Potential for impacts to species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									footprint. Given no threatened flora surveys have been undertaken for this species, and the proximity of previous records and the potential habitat present in the forested areas of the Bungonia Subregion, the likelihood of occurrence is considered moderate. INL: **Low -** 124 surveys in Oct-21; 70 in Nov-21 (64.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. Whilst this species is predicted to occur within the subregion, there are no previous records in the IBRA subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Pomaderris delicata	Delicate Pomaderris	CE		CE			BUN: 121	At both known sites the Delicate Pomaderris grows in dry open forest dominated by *Eucalyptus sieberi* with a dense she-oak understorey. Soils are shallow and derived from sandstone and siltstone. Nothing is known about the response of the species to fire and other disturbance. Delicate Pomaderris is known from only two sites; between Goulburn and Bungonia and south of Windellama (Cullula).	BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 5 Sep-21; 55 in Dec-21 (31.7 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 121 previous records in the IBRA subregion,	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									none of which occur within 20 km of the project footprint.	
Pomaderris pallida	Pale Pomaderris	V		V			BUN: 4 MUR: 1	This species usually grows in shrub communities surrounded by Brittle Gum (*Eucalyptus mannifera*) and Red Stringybark (*E. macrorhyncha*) or Callitris spp. woodland. Pale Pomaderris has been recorded from near Kydra Trig (north-west of Nimmitabel), Tinderry Nature Reserve, the Queanbeyan River (near Queanbeyan), the Shoalhaven River (between Bungonia and Warri), the Murrumbidgee River west of the ACT and the Byadbo area in Kosciuszko National Park. It is also found along the Murrumbidgee River in the ACT and has been recently recorded in eastern Victoria.	BUN: **Low -** There are only four previous records in the IBRA subregion, this record does not occur within 20 km of the project footprint. MUR: **Low -** 29 surveys in Feb-22; 3 in Mar-22; 3 in May-22; 64 in Sep-21; 38 in Oct-21; 87 in Nov-21; 150 in Dec-21 (124.7 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There is only one previous record in the IBRA subregion, this record does not occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Prasophyllum bagoense	Bago Leek Orchid	CE		CE	BON: 77 SNO: 301	BON: 77 SNO: 322	BON: 77 SNO: 322	Bago Leek Orchid is a tuberous ground orchid with leaves that normally regenerate from underground tubers each year in spring. Found in grassy, low heathland dominated by *Poa clivicola, Epacris gunnii* and *E. celata* on a subalpine plain bordered by Snow Gum and Mountain Gum. Currently known from a single population on land covered by a Crown Lease on State Forest near Tumbarumba on the Southern Tablelands of NSW. The species occurs over about 12 ha of sub-alpine grassy plain and wetland at an elevation of about 1100 m. Its distribution may extend into adjacent woodlands. Recent	BON: **High –** Suitable habitat is present and there are a high number of records within 5 km of the project footprint. SNO: **High -** The species was recorded during field surveys within the Bago State Forest approximately 130 metres from the project footprint. A total of 39 individuals were recorded. Another 20	Potential for impacts to species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								annual surveys suggest that the number of individuals emerging at the site may fluctuate seasonally, with counts ranging from about 20 to 80 in the flowering seasons of 2000 and 2003.	individuals were historically recorded by NSW Forestry Corporation in 2016 within the project footprint in the Snowy Mountains IBRA subregion. Review of BioNet data indicates 397 records are known within 10km of the project footprint.	
Prasophyllum innubum	Brandy Marys Leek-orchid	CE		CE	BON: 1 SNO: 2	BON: 1 SNO: 3	BON: 1 SNO: 7	The species is known only from a highly restricted streamside habitat and Sphagnum hummocks, and rarely on adjacent grassy flats, at altitudes of 1150-1180 m. In New South Wales, *Prasophyllum innubum* is known from a single population comprising about seven small colonies, totalling about 400 individuals, from a small area about 30 km north-west of Cabramurra and about 17 km south of Talbingo, in the Tumbarumba Local Government Area. The species occurs in Bago State Forest and apparently also on adjacent Crown forestry lease and private freehold. The species is not known to occur in any conservation reserves.	BON: **High –** Suitable habitat is present. Only one record in the broader IBRA subregion, however it occurs within 5 km of the project footprint. SNO: **High -** 9 surveys in Mar-22 (3 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are seven previous records in the IBRA subregion, two of which occur within 5 km of the project footprint. Given the close proximity of previous records, the presence of potential habitat in the project footprint and the low number of surveys undertaken, the likelihood of occurrence is considered high.	Potential for impacts to species habitat.
Prasophyllum keltonii	Kelton's Leek Orchid	CE		CE	BON: 1 ¶SNO: 31	BON: 1 ¶SNO: 61	BON: 1 ¶SNO: 61	The species is known only from a highly restricted habitat on the treeless McPhersons Plain, an area that includes sub-alpine grassland, sphagnum bogs, and open heathland, at an elevation of 1,100 m. The species has a preference for grassland. The species apparently has a	BON: **High –** Suitable habitat is present. Only one record in the broader IBRA subregion, however it occurs within 5 km of the project footprint.	Potential for impacts to species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								preference for moderately boggy ground, though not sphagnum-dominated areas, but also occurs on some drier patches. Kelton's Leek Orchid is known from a single population that occurs in a small area known as McPhersons Plain, about 30 km north-west of Cabramurra and about 17 km south of Talbingo, in the Tumbarumba Local Government Area. The known population, which is intermingled with the Bago Leek Orchid, is recorded as comprising approximately 400 plants, of which about 380 occur on the Brandy Marys State Forest Crown Leases, and about 20 on an adjacent private property. Surveys over six years up to 2005 have found no plants in the adjoining Bago State Forest. The species is not known to occur in any conservation reserves.	SNO: **High –** 19 surveys in Jan-22 (6.3 person hrs). 14 individuals were recorded adjacent to the project footprint within the Snowy Mountains IBRA subregion. 330 individuals have been historically recorded by the NSW Forestry Corporation (all during 2016) within the vicinity of the project footprint. Three of these historic records directly intersected the project footprint.	
Prasophyllum petilum	Tarengo Leek Orchid	E		E			INL: 26	Grows in open sites within Natural Temperate Grassland at the Boorowa and Delegate sites. Also grows in grassy woodland in association with River Tussock *Poa labillardieri*, Black Gum *Eucalyptus aggregata* and tea-trees *Leptospermum* spp. near Queanbeyan and within the grassy groundlayer dominated by Kangaroo Grass under Box-Gum Woodland at Ilford (and Hall, ACT). Apparently highly susceptible to grazing, being retained only at little-grazed travelling stock reserves (Boorowa & Delegate) and in cemeteries (near Queanbeyan, Ilford and Hall). Flowers in October at Boorowa and Ilford, and December at sites near Queanbeyan and Delegate. Population density at the Boorowa site is higher in the open grassland dominated by wallaby grasses *Austrodanthonia* spp., compared to that within the denser stands of Kangaroo Grass *Themeda triandra*. Highly colonial, with very large numbers present and very conspicuous at the Boorowa site, but cryptic at the Queanbeyan, Ilford and Delegate sites where low numbers are recorded. The population near Muswellbrook is also small. Flowers are followed by fleshy seed capsules in summer. Plants retreat into	INL: **Low -** 124 surveys in Oct-21; 70 in Nov-21; 135 in Dec-21 (109.7 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 26 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint. MUR: **Low -** 64 surveys in Sep-21; 38 in Oct-21; 87 in Nov-21; 150 in Dec-21 (113 person hrs). Was not identified during targeted surveys and the species has not been	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								subterranean tubers after fruiting, so are not visible above-ground outside of growing periods. Natural populations are known from a total of five sites in NSW. These are near Boorowa, Queanbeyan area, Ilford. Delegate and a newly recognised population 10 km west of Muswellbrook. It also occurs at Hall in the Australian Capital Territory. This species has also been recorded at Bowning Cemetery where it was experimentally introduced, though it is not known whether this population has persisted.	incidentally identified during any other flora surveys for the project. There are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Prasophyllum retroflexum	Kiandra Leek Orchid	V		V			SNO: 12	The species occurs in subalpine grasslands and woodlands. Flowering has been recorded between October and December. Flowers are followed by a fleshy seed capsule. Plants retreat into subterranean tubers after fruiting, so are not visible above-ground. All populations are thought to occur within Kosciuszko National Park (in the Long Plain, Kiandra, Tantangara area).	SNO: **Unlikely -** The species is restricted to treeless vegetation above 1000 m in altitude in Kosciuszko National Park. There are 12 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Prasophyllum sp. *Wybong*	*Prasophyllum* sp. *Wybong*	-		CE				A perennial orchid, appearing as a single leaf over winter and spring. Flowers in spring and dies back to a dormant tuber over summer and autumn. Known to occur in open eucalypt woodland and grassland. Endemic to NSW, it is known from near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell, Tenterfield, Currabubula and the Pilliga area. Most populations are small, although the Wybong population contains by far the largest number of individuals.	INL: **Low -** 124 surveys in Oct-21 (41.3 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. Whilst this species is predicted to occur within the subregion, there are no previous records in the IBRA subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	**Common name**	**NSW BC Act**	**NSW FM Act**	**EPBC Act**	**Records within 5km**	**Records within 20km**	**Records within IBRA Subregion**	**Habitat**	**Likelihood of occurrence (per IBRA subregion)***	**Likelihood to be impacted by the project**
Pterostylis oreophila	Blue-tongued Greenhood	CE		CE	BON: 1 ¶SNO: 3	BON: 1 SNO: 4	BON: 1 SNO: 8	Grows along sub-alpine watercourses under more open thickets of Mountain Tea-tree in muddy ground very close to water. Less commonly grows in peaty soils and sphagnum mounds. While more frequently found in low-light conditions it appears to also be able to tolerate full sun. In New South Wales, the Blue-tongued Greenhood is known from a few small populations within Kosciuszko National Park and a population of about 40 plants (possibly now extinct) in Bago State Forest and adjoining Crown Leases south of Tumut. The known distribution includes parts of the Snowy River, Tumbarumba and possibly Tumut Local Government Areas. The Blue-tongued Greenhood is also known from the Australian Capital Territory (Brindabella Range) and in montane areas of far north-eastern Victoria.	BON: **High –** Suitable habitat is present. Only one record in the broader IBRA subregion, however it occurs within 5 km of the project footprint. SNO: **High -** 19 surveys in Jan-22 (6.3 person hrs). Was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are eight previous records in the IBRA subregion, four of which occur within 20 km of the project footprint, and three of which occur within 5 km of the project footprint. Given the low number of surveys undertaken, the likelihood of occurrence is considered high.	Potential for impacts to species habitat.
Pultenaea baeuerlenii	Budawangs Bush-pea	V		V			BUN: 10	Budawangs Bush-pea appears to prefer swampy heathland on sandstone. Flowering is mainly in spring but has been observed in summer and autumn. The species is known from a few sites in Morton and Budawang National Parks (Mt Currockbilly, Bhundoo Hill, Little Forest, Burrumbeet Brook and Corang Trig).	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are only 10 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. Given the conspicuous nature of the species, the survey effort is considered sufficient.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Ranunculus anemoneus	Anemone Buttercup	V		V			SNO: 2136	The Anemone Buttercup generally occurs in environments with late melting snow; on south to east facing, steep grassy slopes, or rocky crevices, or short alpine herb fields. The species has also been collected along watercourses, in grassland, heathland (below snow patches) and on roadside batters. Soils at Anemone	SNO: **Unlikely –** The species is restricted to areas above 1400 m altitude, the entire project footprint is below that altitude. Whilst there are 2,136 previous records in the IBRA subregion,	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Buttercup sites include loams (alpine humus soils), peats and decomposing granite. It is probably palatable to domestic stock and therefore grazing sensitive. Part of the reason for the susceptibility of Anemone Buttercup to grazing might be its early flowering. This is because species in the high country that flower soon after snow melt form their flower buds in the autumn before flowering; grazing of Anemone Buttercup flower buds in autumn could significantly impact on populations if plants are short-lived. The Anemone Buttercup occurs in a narrow band, only about 8km wide and 32km long, along the Great Dividing Range within Kosciuszko National Park (comprising the Main Range between Mt Kosciuszko and Mt Twynam; the Charlottes Pass resort; the Mt Perisher - Mt Blue Cow area; the Guthega - Mt Tate area; the Schlink Pass - Gungarten Pass area, the Rams Head Range and Upper parts of Thredbo, and Mt Jagungal).	none occur within 20 km of the project footprint.	
Rhizanthella slateri	Eastern Australian Underground Orchid	V		E				Habitat requirements are poorly understood, and no vegetation type has been associated with the species, although it is known to occur in sclerophyll forest. Highly cryptic given that it grows almost completely below the soil surface, with flowers being the only part of the plant that can occur above ground. Therefore, usually located only when the soil is disturbed. Flowers September to November. Occurs from south-east Queensland to south-east NSW. In NSW, currently known from fewer than 10 locations, including near Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra.	BUN: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Rutidosis leiolepis	Monaro Golden Daisy	V		V			SNO: 51	Found in Natural Temperate Grassland on the Monaro. Occurs in sub-alpine grasslands in Kosciuszko National Park. Grows on basalt, granite and sedimentary substrates. Apparently highly susceptible to grazing, being retained in only a small number of populations on roadsides, un-grazed reserves and very lightly grazed pastures on private lands.	SNO: **Low -** 19 surveys in Jan-22; 9 in Mar-22; 32 in Nov-21 (20 person hrs). The species was not identified during targeted surveys and has not been incidentally identified during any other flora surveys	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								The Monaro Golden Daisy is found in scattered populations on the Monaro, and in low subalpine plains of Kosciuszko National Park (eg. Long Plain and Happy Jacks Plain).	for the project. There are 51 previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. Potential grassland habitat occurs in the IBRA subregion.	
Rytidosperma pumilum	Feldmark Grass	V		V			SNO: 71	Feldmark Grass is found only in the feldmark - the sparse low vegetation of the bare rocky alpine slopes and ridges, one of the harshest environments in Australia. There is little snow cover in winter because the prevailing westerly winds blow it off into lee snow patches. The absence of snow cover means that extremely low temperatures and strong winds are experienced for long periods during winter. Surface soil temperatures are high in summer and soil moisture levels are often limiting at that time. Judging from its habit and habitat, distribution and preferred habitat, this species presumably resprouts following disturbance, is remarkably tolerant of low temperature and has a limited capacity for dispersal of seeds to other areas of similar habitat nearby. Felmark Grass is limited to a tiny area - about 3 ha - of the Main Range of Kosciuszko National Park between Mt Northcote and Mt Lee. This species also occurs in alpine parts of New Zealand.	SNO: **Unlikely -** There are no associated PCTs mapped in the project footprint. Additionally, there are 71 previous records in the IBRA subregion, however none occur within 20 km of the project footprint. The known habitat for the species (sparse low vegetation of the bare rocky alpine slopes and ridges) is not found within the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Senecio macrocarpus	Large-fruit Fireweed			V			MUR:4	The Large-fruit Groundsel is a small perennial plant endemic to south-eastern Australia, where it occurs in South Australia and Victoria, and formerly occurred in Tasmania. There are about 15 populations containing about 36,000 plants, although almost all plants (about 35,000) occur in just one population. This species is associated with Goulburn Tableland Box-Gum Grassy Forest and Southern Tableland Grassy Box Woodland.	MUR: **Unlikely** - There are no associated PCTs mapped in the project footprint. Additionally, there are only four records within the IBRA subregion, none of which occur within 20 km of the project footprint.	Direct/indirect impacts to species as a result of the project are highly unlikely.
Swainsona recta	Small Purple-pea	E		E		INL: 2	INL: 734 MUR: 4	Before European settlement Small Purple-pea occurred in the grassy understorey of woodlands and open-forests dominated by Blakely's Red Gum *Eucalyptus blakelyi*, Yellow Box *E. melliodora*, Candlebark Gum *E. rubida* and Long-leaf Box *E. goniocalyx*. Grows in association with	INL: **Low -** 124 surveys in Oct-21; 70 in Nov-21 (64.7 person hrs). The species was not identified during targeted surveys and the species has not	Direct/indirect impacts to species as a result of the

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								understorey dominants that include Kangaroo Grass *Themeda triandra*, poa tussocks *Poa* spp. and spear-grasses *Austrostipa* spp. Plants die back in summer, surviving as a rootstocks until they shoot again in autumn. Flowers throughout spring, with a peak in October. Seeds ripen at the end of the year. Individual plants have been known to live for up to 20 years. Generally tolerant of fire, which also enhances germination by breaking the seed coat and reduces competition from other species. Small Purple-pea was recorded historically from places such as Carcoar, Culcairn and Wagga Wagga where it is probably now extinct. Populations still exist in the Queanbeyan and Wellington-Mudgee areas. Over 80% of the southern population grows on a railway easement.	been incidentally identified during any other flora surveys for the project. There are 734 previous records in the IBRA subregion, two of which occur within 20 km of the project footprint, however none occur within 5 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low. MUR: **Low -** 64 surveys in Sep-21; 38 in Oct-21; 87 in Nov-21 (63 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are four previous records in the IBRA subregion, none of which occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low.	project are highly unlikely.
Thesium australe	Austral Toadflax	V		V		BON: 8 SNO: 11	BON: 9 SNO: 17	Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Often found in association with Kangaroo Grass (*Themeda australis*). A root parasite that takes water and some nutrient from other plants, especially Kangaroo Grass. Austral Toad-flax is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia. Although originally described from material collected in the SW	BON: **Low -** 5 surveys in Nov-21 (1.7 person hours). The species was not identified during targeted surveys and has not been incidentally identified during any other flora surveys for the project. There are nine previous records in the IBRA subregion, eight of which occur within 5 km of the project	Potential for impacts to species habitat.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Sydney area, populations have not been seen in a long time. It may persist in some areas in the broader region.	footprint. However, there are no associated PCTs within the Bondo IBRA region, therefore the likelihood of occurrence is low. BUN: **Low -** 10 surveys in Jan-22; 24 in Feb-22; 55 in Dec-21 (29.7 person hrs). The species was not identified during targeted surveys and has not been incidentally identified during any other flora surveys for the project. There are no previous records in the IBRA subregion, however this species is predicted to occur within the subregion. CRO: **Low -** 26 surveys in Jan-22; 88 in Feb-22; 59 in Dec-21 (57.7 person hrs). The species was not identified during targeted surveys and has not been incidentally identified during any other flora surveys for the project. Whilst the species is predicted to occur in Crookwell, there are no previous records in the IBRA subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low. MUR: **Low -** 29 surveys in Feb-22; 87 in Nov-21; 150 in Dec-21 (88.7 person hrs). The species was not identified during targeted surveys and has not been incidentally identified	

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
									during any other flora surveys for the project. Whilst the species is predicted to occur in Murrumbateman, there are no previous records in the IBRA subregion. The survey effort is considered sufficient to consider this species likelihood of occurrence as low. SNO: **Moderate -** 19 surveys in Jan-22; 32 in Nov-21 (17 person hrs). The species was not identified during targeted surveys and has not been incidentally identified during any other flora surveys for the project. There are 17 previous records in the IBRA subregion, 11 of which occur within 20 km of the project footprint, however none occur within 5 km of the project footprint. Given the low number of surveys undertaken, and the cryptic nature of the species, the likelihood of occurrence is considered moderate.	
Tylophora linearis	-	V		E			INL: 25	Grows in dry scrub and open forest. Recorded from low-altitude sedimentary flats in dry woodlands of *Eucalyptus fibrosa*, *Eucalyptus sideroxylon*, *Eucalyptus albens, Callitris endlicheri, Callitris glaucophylla* and *Allocasuarina luehmannii*. Also grows in association with *Acacia hakeoides*, *Acacia lineata, Melaleuca uncinata, Myoporum* species and *Casuarina* species. Flowers in spring, with flowers recorded in November or May and is suspected to be related to rainfall, with fruiting probably 2 to 3 months later. Altitudes are generally in the range of 300 - 400 m a.s.l.	INL: **Low -** 7 surveys in Jan-22; 4 in Feb-22; 41 in Mar-22; 11 in May-22; 124 in Oct-21; 70 in Nov-21; 135 in Dec-21 (130.7 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 25 previous records in the IBRA	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Occurs from southern Queensland into central NSW, as far south near Temora with the majority of records occurring in the central western region. Records from Goonoo, Pillaga West, Pillaga East, Bibblewindi, Cumbil, and Eura State Forests, Coolbaggie NR, Goobang NP and Beni SCA. Also has been recorded in Hiawatha State Forest near West Wyalong in the south and there are old records as far north as Crow Mountain near Barraba and near Glenmorgan in the western Darling Downs.	subregion, none of which occur within 20 km of the project footprint. The survey effort is considered sufficient to consider this species likelihood of occurrence as low within this subregion of the project footprint.	
Xerochrysum palustre	Swamp Everlasting	-		V			SNO: 5	*Xerochrysum palustre* has been recorded in Kosciuszko National Park and the eastern escarpment south of Badja. The species grows in swamps and bogs which are often dominated by heaths. It also grows at the edges of bog margins on peaty soils with a cover of shrubs or grasses and sometimes grows in bogs with Sphagnum.	SNO: **Known (recorded)** - 19 surveys in Jan-22; 9 in Mar-22; 32 in Nov-21 (20 person hrs) and 7.93 km of random meander in Feb-21 (ELA). Six individuals were identified in the Snowy Mountains IBRA subregion portion of the project footprint outside of the indicative disturbance footprint.	Potential for impacts to species habitat.
Zieria obcordata	Granite Zieria	E		E			INL: 26	Grows in eucalypt woodland or shrubland dominated by species of Acacia on rocky hillsides. Also occurs in *Eucalyptus* and *Callitris* dominated woodland with an open, low shrub understorey, on moderately steep, mainly west to north-facing slopes in sandy loam amongst granite boulders. The altitude range of sites is 500 to 830 metres. Associated vegetation includes *Eucalyptus blakelyi, Brachychiton populneus* and *Acacia implexa* woodland with pockets of low shrub understorey. Also in *E. goniocalyx, E. blakelyi, E. macrorhyncha*, *A. doratoxylon, A. vestita* and *Callitris glaucophylla* woodland with a shrubby understorey. Understorey species include *Pandorea pandorana, Isotoma axillaris, Westringia eremicola, Leucopogon attenuatus, Dillwynia sericea, Olearia ramulosa, Stypandra glauca, Stellaria pungens, Acacia vestita, Melichrus urceolatus, Cryptandra amara, Lepidosperma, Styphelia, Kunzea, Haloragis* and *Cheilanthes* species.	INL: **Low -** 124 surveys in Oct-21 (41.3 person hrs). The species was not identified during targeted surveys and the species has not been incidentally identified during any other flora surveys for the project. There are 26 previous records in the Inland Slopes IBRA subregion, however, all of these occur over 100 km north near Bathurst. Given the project footprint's distance from known records, the survey effort is considered sufficient to consider this species likelihood of occurrence as low.	Direct/indirect impacts to species as a result of the project are highly unlikely.

Scientific name (Data source)	Common name	NSW BC Act	NSW FM Act	EPBC Act	Records within 5km	Records within 20km	Records within IBRA Subregion	Habitat	Likelihood of occurrence (per IBRA subregion)*	Likelihood to be impacted by the project
								Main flowering period is in spring (September-October), but plants tend to have flowers present throughout the year. In wild populations, plants tend to grow in crevices between granite boulders, often in lines running downslope. The species has proved to be very difficult to cultivate. Best growth has been achieved with plants in a very sandy well-drained soil. Wild plants have strongly aromatic leaves. *Zieria obcordata* is extremely sensitive to grazing and browsing disturbances by domestic stock and native herbivores. Heavily browsed plants and vigorous regrowth (following severe browsing by wallabies) have been recorded at sites. Plants are tolerant of prolonged moderate drought conditions but highly susceptible to extreme summer heatwaves that occur over more than five consecutive days. Mass regeneration events can occur after above-average rainfall seasons, otherwise very low levels of recruitment occur each year. Plants known to first flower at 10cm high. Occurs at two sites with a geographic range of 105 km. These are in the Wuuluman area near Wellington, comprising of a single subpopulation over 3 sites comprising up to 200 plants and Crackerjack Rock/Rock Forests area NW of Bathurst, with a subpopulation comprising of 14 sites, totalling to approximately 700 adult plants after good seasons.		

*INL – Inland Slopes IBRA sub-region; BUN – Bungonia IBRA sub-region; MUR – Murrumbateman IBRA sub-region; SNO – Snowy Mountains IBRA sub-region; CRO – Crookwell IBRA sub-region; BON – Bondo IBRA sub-region

Attachment 17. Protected matters search results

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 27-Apr-2022

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	2
Wetlands of International Importance (Ramsar	7
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	89
Listed Migratory Species:	13

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	304
Commonwealth Heritage Places:	2
Listed Marine Species:	20
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	22
Regional Forest Agreements:	1
Nationally Important Wetlands:	2
EPBC Act Referrals:	32
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places			[Resource Information]
Name	State	Legal Status	Buffer Status
Historic			
Snowy Mountains Scheme	NSW	Listed place	In feature area
Natural			
Australian Alps National Parks and Reserves	ACT	Listed place	In feature area

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	600 - 700km upstream from Ramsar site	In feature area
Barmah forest	200 - 300km upstream from Ramsar site	In feature area
Gunbower forest	300 - 400km upstream from Ramsar site	In feature area
Hattah-kulkyne lakes	400 - 500km upstream from Ramsar site	In feature area
Nsw central murray state forests	200 - 300km upstream from Ramsar site	In feature area
Riverland	500 - 600km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	600 - 700km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities			[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Alpine Sphagnum Bogs and Associated Fens	Endangered	Community known to occur within area	In feature area

Community Name	Threatened Category	Presence Text	Buffer Status
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area	In feature area
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community likely to occur within area	In feature area
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	Community may occur within area	In buffer area only
Weeping Myall Woodlands	Endangered	Community may occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat known to occur within area	In feature area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Nannoperca australis Murray-Darling Basin lineage			
Southern Pygmy Perch (Murray-Darling Basin lineage) [91711]	Vulnerable	Species or species habitat known to occur within area	In feature area
FROG			
Crinia sloanei			
Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area	In feature area
Litoria booroolongensis			
Booroolong Frog [1844]	Endangered	Species or species habitat known to occur within area	In feature area
Litoria raniformis			
Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area	In feature area
Litoria spenceri			
Spotted Tree Frog [25959]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Litoria verreauxii alpina			
Alpine Tree Frog, Verreaux's Alpine Tree Frog [66669]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Mixophyes balbus			
Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pseudophryne corroboree			
Southern Corroboree Frog [1915]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Pseudophryne pengilleyi			
Northern Corroboree Frog [66670]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
INSECT			
Paralucia spinifera			
Bathurst Copper Butterfly, Purple Copper Butterfly, Bathurst Copper, Bathurst Copper Wing, Bathurst-Lithgow Copper, Purple Copper [26335]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Synemon plana			
Golden Sun Moth [25234]	Vulnerable	Species or species habitat known to occur within area	In feature area
MAMMAL			
Chalinolobus dwyeri			
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Mastacomys fuscus mordicus			
Broad-toothed Rat (mainland), Tooarrana [87617]	Vulnerable	Species or species habitat known to occur within area	In feature area
Nyctophilus corbeni			
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans			
Greater Glider [254]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petrogale penicillata			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat known to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys fumeus			
Smoky Mouse, Konoom [88]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Pteropus poliocephalus](#) Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
[Acacia bynoeana](#) Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Ammobium craspedioides](#) Yass Daisy [20758]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Amphibromus fluitans](#) River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Austrostipa wakoolica](#) [66623]	Endangered	Species or species habitat may occur within area	In buffer area only
[Brachyscome muelleroides](#) Mueller Daisy [15572]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Caladenia arenaria](#) Sand-hill Spider-orchid [9275]	Endangered	Species or species habitat may occur within area	In feature area
[Caladenia concolor](#) Crimson Spider-orchid, Maroon Spider-orchid [5505]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Caladenia tessellata](#) Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Calotis glandulosa](#) Mauve Burr-daisy [7842]	Vulnerable	Species or species habitat may occur within area	In feature area
[Colobanthus curtisiae](#) Curtis' Colobanth [23961]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Commersonia prostrata Dwarf Kerrawang [87152]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat may occur within area	In buffer area only
Diuris aequalis Buttercup Doubletail [21588]	Endangered	Species or species habitat known to occur within area	In feature area
Diuris ochroma Pale Golden Moths [64565]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Dodonaea procumbens Trailing Hop-bush [12149]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eucalyptus aggregata Black Gum [20890]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus macarthurii Camden Woollybutt, Paddys River Box [7827]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat may occur within area	In buffer area only
Genoplesium vernale East Lynne Midge-orchid [68379]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Grevillea iaspicula Wee Jasper Grevillea [22024]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Grevillea raybrownii [65665]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Grevillea wilkinsonii Tumut Grevillea [56396]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Hakea dohertyi a shrub [66701]	Endangered	Species or species habitat may occur within area	In buffer area only
Helichrysum calvertianum [5702]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Kunzea cambagei [11420]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lepidium aschersonii Spiny Pepper-cress [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat likely to occur within area	In feature area
Lepidium monoplocoides Winged Pepper-cress [9190]	Endangered	Species or species habitat may occur within area	In buffer area only
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat known to occur within area	In feature area
Persoonia mollis subsp. revoluta [56094]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phyllota humifusa Dwarf Phyllota [10133]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pimelea bracteata [8125]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Pomaderris cotoneaster Cotoneaster Pomaderris [2043]	Endangered	Species or species habitat known to occur within area	In feature area
Pomaderris pallida Pale Pomaderris [13684]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Prasophyllum bagoense Bago Leek-orchid [84276]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Prasophyllum innubum Brandy Marys Leek-orchid [83603]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Prasophyllum keltonii Kelton's Leek-orchid [83604]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Translocated population known to occur within area	In feature area
Pterostylis oreophila Blue-tongued Orchid, Kiandra Greenhood [22903]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In feature area
Rutidosis leptorhynchoides Button Wrinklewort [67251]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area	In feature area
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area	In feature area
Thelymitra kangaloonica Kangaloon Sun Orchid [81861]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat known to occur within area	In feature area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat may occur within area	In buffer area only
REPTILE			
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat known to occur within area	In feature area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat known to occur within area	In feature area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Breeding known to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Commonwealth Bank of Australia		
Commonwealth Land - Commonwealth Bank of Australia [14796]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [14932]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [14772]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [14775]	NSW	In buffer area only
Commonwealth Trading Bank of Australia		
Commonwealth Land - Commonwealth Trading Bank of Australia [12508]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12509]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12628]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [14988]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12623]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12624]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12622]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12510]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12627]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12625]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [12626]	NSW	In buffer area only
Communications, Information Technology and the Arts - Australian Broadcasting Corporation		
Commonwealth Land - Australian Broadcasting Corporation [14954]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [12504]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Telecommunications Commission [14753]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12507]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12620]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12619]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12618]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14985]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15426]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14738]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12637]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14983]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14955]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14989]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14984]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14986]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14987]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12511]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12575]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14727]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14721]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Telecommunications Commission [14946]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14945]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14976]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14911]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12629]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12621]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14968]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14962]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14967]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [15003]	NSW	In feature area
Commonwealth Land - Telstra Corporation Limited [12635]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [16044]	NSW	In buffer area only
Defence		
Commonwealth Land - Defence Service Homes Corporation [14910]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14916]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14915]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14919]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14921]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14920]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14947]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14949]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14917]	NSW	In buffer area only
Defence - BLAMEY BARRACKS - KAPOOKA [11193]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - RAAF BASE WAGGA [11218]	NSW	In buffer area only
Defence - RAAF BASE WAGGA [11213]	NSW	In buffer area only
Defence - RAAF BASE WAGGA [11214]	NSW	In buffer area only
Defence - RAAF BASE WAGGA [11215]	NSW	In buffer area only
Defence - RAAF BASE WAGGA [11216]	NSW	In buffer area only
Defence - RAAF BASE WAGGA [11217]	NSW	In buffer area only
Defence - WAGGA ARES DEPOT ; BLAMEY BKS -WAGGA WAGGA TRG DEP [11208]	NSW	In buffer area only
Defence - WAGGA ARES DEPOT ; BLAMEY BKS -WAGGA WAGGA TRG DEP [11206]	NSW	In buffer area only
Defence - WAGGA ARES DEPOT ; BLAMEY BKS -WAGGA WAGGA TRG DEP [11207]	NSW	In buffer area only
Defence - WAGGA - WATER BORE SITE AP1 [11230]	NSW	In buffer area only
Defence - WAGGA - WATER BORE SITE AP2 [11232]	NSW	In buffer area only
Defence - WAGGA - WATER BORE SITE AP3 [11231]	NSW	In buffer area only
Defence - Defence Housing Authority		
Commonwealth Land - Defence Housing Authority [14755]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14754]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16501]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16500]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14752]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14794]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14759]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14795]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14827]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14941]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14723]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14722]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14842]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14803]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14845]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14844]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14847]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14840]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14843]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16350]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14798]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14809]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14808]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14805]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14854]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14846]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14804]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14758]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14849]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14806]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14799]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14848]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14801]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14855]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14788]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14800]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14790]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14793]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14792]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14903]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14797]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14724]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14736]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14887]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14737]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14791]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14789]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14938]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14909]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14857]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16131]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14867]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16130]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14781]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14829]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14814]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14869]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14815]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14826]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14768]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14816]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14764]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14769]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14817]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14810]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14811]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14850]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14739]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14851]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14888]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14889]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14763]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14783]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14868]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14881]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14913]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14730]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14731]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14732]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14760]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14761]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14762]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14828]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14785]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14765]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14751]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14766]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14750]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14928]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14939]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14725]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14757]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14929]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14951]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14950]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14786]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14787]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14858]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14859]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14901]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14902]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14745]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14863]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14905]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14743]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14906]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14742]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14907]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14741]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14900]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14740]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14819]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14818]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14812]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14885]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14862]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14813]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14904]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14865]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14864]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14908]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14866]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14852]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15719]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14860]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14861]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14726]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14853]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14940]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14926]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14924]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14927]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14821]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14923]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14925]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14841]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14942]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16129]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14944]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16249]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14820]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14784]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14948]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14824]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14825]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14823]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14822]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16126]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [16127]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16128]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14870]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14872]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14871]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14874]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14873]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14856]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14749]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14748]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16248]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14746]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14747]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14744]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14875]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14876]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14877]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14836]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14837]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14880]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14883]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14728]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14729]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14899]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14879]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14878]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14780]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14882]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14833]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14832]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14831]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14830]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14839]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14838]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14935]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14892]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14893]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14890]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14891]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14898]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14835]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14733]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14897]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14896]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14895]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14894]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14937]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14934]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14931]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14936]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14933]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14930]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14834]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14771]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14770]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14773]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16344]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16343]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16347]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16346]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16345]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15720]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14774]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14776]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14777]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16250]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14802]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16348]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14886]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14756]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16349]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14767]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14912]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16251]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14778]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14779]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14782]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14914]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14918]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14922]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14943]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Transport and Regional Services - Airservices Australia		
Commonwealth Land - Airservices Australia [12576]	NSW	In buffer area only
Unknown		
Commonwealth Land - [14734]	NSW	In buffer area only
Commonwealth Land - [14735]	NSW	In buffer area only
Commonwealth Land - [14990]	NSW	In buffer area only
Commonwealth Land - [14884]	NSW	In buffer area only

Commonwealth Heritage Places [Resource Information]

Name	State	Status	Buffer Status
Historic			
Tumut Post Office	NSW	Listed place	In buffer area only
Yass Post Office	NSW	Listed place	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Breeding known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Back Arm	Nature Reserve	NSW	In feature area
Bago	Flora Reserve	NSW	In buffer area only
Bangadilly	National Park	NSW	In buffer area only
Bango	Nature Reserve	NSW	In feature area
Burrinjuck	Nature Reserve	NSW	In buffer area only
Ellerslie	Nature Reserve	NSW	In buffer area only
Hattons Corner	Nature Reserve	NSW	In buffer area only
Helms	Flora Reserve	NSW	In buffer area only
Kerrawary	Nature Reserve	NSW	In buffer area only
Kosciuszko	National Park	NSW	In feature area
Mares Forest	National Park	NSW	In buffer area only

Protected Area Name	Reserve Type	State	Buffer Status
Minjary	National Park	NSW	In feature area
Mudjarn	Nature Reserve	NSW	In feature area
Mundoonen	Nature Reserve	NSW	In buffer area only
Narrangarril	Nature Reserve	NSW	In buffer area only
Old Jeremiah	Flora Reserve	NSW	In buffer area only
Paddys River	Flora Reserve	NSW	In buffer area only
Tarcutta Hills	Conservation Reserve	NSW	In buffer area only
Tarlo River	National Park	NSW	In feature area
Wereboldera	State Conservation Area	NSW	In feature area
Wollondilly River	Nature Reserve	NSW	In buffer area only
Wombeyan	Karst Conservation Reserve	NSW	In buffer area only

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

RFA Name	State	Buffer Status
Southern RFA	New South Wales	In feature area

Nationally Important Wetlands [Resource Information]

Wetland Name	State	Buffer Status
Tomneys Plain	NSW	In buffer area only
Tomneys Plain	NSW	In feature area

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Conroys Gap Wind Farm - Stage 2	2013/6989	Controlled Action	Post-Approval	In buffer area only
EnergyConnect NSW - Eastern Section	2020/8766	Controlled Action	Assessment Approach	In feature area
Gas Fired Power Station & Associated Facilities	2010/5484	Controlled Action	Post-Approval	In feature area
Hume Highway upgrade	2007/3330	Controlled Action	Post-Approval	In buffer area only
Hume Highway Upgrade - proposed 7km upgrade Tarcutta	2009/5062	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
bypass				
Jeremiah Wind Farm	2021/8978	Controlled Action	Assessment Approach	In feature area
Olympic Highway Realignment & Construct Road-Over-Rail Bridge, Wagga Wagga NSW	2013/6956	Controlled Action	Post-Approval	In buffer area only
Rye Park Wind Farm	2020/8837	Controlled Action	Post-Approval	In feature area
Rye Park Wind Farm, (N of Yass, SE of Boorowa), NSW	2014/7163	Controlled Action	Post-Approval	In feature area
Snowy 2.0 Main Works, Snowy Mountains, NSW	2018/8322	Controlled Action	Post-Approval	In feature area
Snowy 2.0 transmission connection project, NSW	2018/8363	Controlled Action	Assessment Approach	In feature area
Yass Valley Wind Farm	2013/7002	Controlled Action	Post-Approval	In feature area
Yass Valley Wind Farm, NSW	2013/6809	Controlled Action	Completed	In feature area
Not controlled action				
132 kV Transmission Line from Gunning wind farm to existing Yass-Goulburn transmission line	2008/4604	Not Controlled Action	Completed	In buffer area only
Access road to Gumly Gumly Quarry	2007/3813	Not Controlled Action	Completed	In buffer area only
Albury to Illabo Section of Inland Rail	2020/8670	Not Controlled Action	Completed	In feature area
Biala Wind Farm Project NSW	2015/7459	Not Controlled Action	Completed	In buffer area only
Conroys Gap Wind Farm	2006/2733	Not Controlled Action	Completed	In feature area
Construction of infrastructure to support future residential development at Lots	2007/3517	Not Controlled Action	Completed	In buffer area only
Crookwell 3 Wind Farm	2021/8972	Not Controlled Action	Completed	In feature area
Gregadoo Solar Farm 19-590	2020/8643	Not Controlled Action	Completed	In feature area
Gullen Range Wind Farm	2008/3947	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Red Hill Road extension	2005/2311	Not Controlled Action	Completed	In buffer area only
Snowy 2.0 Exploratory works, Snowy Mountains, NSW	2018/8217	Not Controlled Action	Completed	In buffer area only
Taralga Windfarm & Associated Infrastructure	2004/1888	Not Controlled Action	Completed	In feature area
vegetation clearance and construction of a dwelling	2003/1291	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
1080 Surface baiting research proposal	2008/3983	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Aerial baiting for wild dog control	2006/2713	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
New transmission infrastructure, HumeLink	2021/9121	Referral Decision	Referral Publication	In feature area

Bioregional Assessments			
SubRegion	BioRegion	Website	Buffer Status
Sydney	Sydney Basin	BA website	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Attachment 18. Matters of National Environmental Significance

1. Introduction

1.1 Background

This attachment is intended to address requirement 15 of the Supplementary SEARs, as follows:

15. The EIS must identify each EPBC Act listed threatened species and community and migratory species likely to be impacted by the action. For any species and communities that are likely to be impacted, the proponent must provide a description of the nature, quantum, and consequences of the impacts. For species and communities potentially located in the project footprint or in the vicinity that are not likely to be impacted, provide evidence why they are not likely to be impacted.

Matters of National Environmental Significance (MNES) relevant to the project are outlined in Section 1.2 of this attachment and include threatened species and communities and migratory species:

- recorded within the project footprint during field surveys
- identified as having a moderate or higher potential to occur in the project footprint based on the presence of habitat, or a transient species identified as a potential collision risk (Attachment 16)
- were EPBC Act listed species specifically noted in the SEARs.

A significant impact assessment (SIA) has been undertaken for each MNES in accordance with the *Matters of National Environmental Significance Significant Impact Guidelines 1.1* (Significant Impact Guidelines) (DoE, 2013). Key terms used throughout this attachment are defined in Table A18- 1 in accordance with the Significant Impact Guidelines.

The outcomes of each assessment are summarised in the following section below and detailed in the pages that follow.

Table A18- 1: Key terms used as a part of the assessment

Term	Definition from Significant Impact Guidelines
Significant impact	An impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment that is affected, and upon the intensity, duration, magnitude and geographic extent of the impacts. To be likely, it is not necessary for a significant impact to have a greater than 50 per cent chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility. If there is scientific uncertainty about the impacts of an action and potential impacts are serious or irreversible, the precautionary principle is applicable.
Population of a species	A '*population of a species*' is defined under the EPBC Act as an occurrence of the species in a particular area. In relation to critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to: • a geographically distinct regional population, or collection of local populations, or • a population, or collection of local populations, that occurs within a particular bioregion.

Term	Definition from Significant Impact Guidelines
Important population	An '*important population*' is defined by the Significant Impact Guidelines as "a population that is necessary for a species' long-term survival and recovery". This may include populations identified as such in recovery plans, and/or that are: • key source populations either for breeding or dispersal • populations that are necessary for maintaining genetic diversity, and/or • populations that are near the limit of the species range."
Habitat critical to the survival of a species or ecological community	'*Habitat critical to the survival of a species or ecological community*' refers to areas that are necessary: • for activities such as foraging, breeding, roosting, or dispersal • for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators) • to maintain genetic diversity and long-term evolutionary development, or • for the reintroduction of populations or recovery of the species or ecological community. Such habitat may be, but is not limited to: • habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or • habitat listed on the Register of Critical Habitat maintained by the Minister under the EPBC Act. Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species. These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary whole of life cycle habitat attributes to facilitate the recovery of a declining population of the species.
Important habitat for migratory species	An area of '*important habitat'* for a migratory species is: • habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, and/or • habitat that is of critical importance to the species at particular life-cycle stages, and/or • habitat utilised by a migratory species which is at the limit of the species range, and/or • habitat within an area where the species is declining.
Ecologically significant proportion (migratory species)	Listed migratory species cover a broad range of species with different life cycles and population sizes. Therefore, what is an 'ecologically significant proportion' of the population varies with the species (each circumstance will need to be evaluated). Some factors that should be considered include the species' population status, genetic distinctiveness, and species-specific behavioural patterns (for example, site fidelity and dispersal rates).

Term	Definition from Significant Impact Guidelines
Population of a migratory species	'*Population*', in relation to migratory species, means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries including Australia.
Invasive species	An *'invasive species'* is an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources, or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or ecological communities by direct competition, modification of habitat or predation.

1.2 Relevant Matters of National Environmental Significant

Table A18- 2 provides a summary of the outcome of the Significant Impact Assessment for each of the MNES identified relevant to the project.

Table A18- 2: Significant impact assessment outcomes for relevant MNES

MNES	Likelihood of occurrence	Significant impact
Threatened Ecological Communities (TEC)		
Box Gum Woodland	Known	Likely significant impact
Alpine Sphagnum Bogs and Associated Fens	Known	Potential significant impact (precautionary)
Flora		
Bynoe's Wattle (*Acacia bynoeana*)	Likely	Potential significant impact (precautionary)
Yass Daisy (*Ammobium craspedioides*)	Known	Potential significant impact
Black Gum (*Eucalyptus aggregata*)	Likely	Significant impact unlikely
Cambage Kunzea *(Kunzea cambagei)*	Likely	Potential significant impact (precautionary)
Hoary Sunray (*Leucochrysum albicans* var. *tricolor*)	Known	Potential significant impact
Cotoneaster Pomaderris *(Pomaderris cotoneaster)*	Likely	Potential significant impact (precautionary)
Bago Leek-orchid (*Prasophyllum bagoense*)	Known	Potential significant impact
Brandy Mary's Leek-orchid (*Prasophyllum innubum*)	Likely	Significant impact unlikely
Kelton's Leek Orchid *(Prasophyllum keltonii)*	Likely	Potential significant impact
Blue-tongued Greenhood *(Pterostylis oreophila)*	Likely	Potential significant impact (precautionary)
Austral Toadflax *(Thesium australe*)	Likely	Potential significant impact (precautionary)
Swamp Everlasting *(Xerochrysum palustre)*	Known	Potential significant impact (precautionary)
Fauna		
Sloane's Froglet (*Crinia sloanei*)	Likely	Significant impact unlikely

MNES	Likelihood of occurrence	Significant impact
Booroolong Frog (*Litoria booroolongensis*)	Likely	Significant impact unlikely
Yellow-spotted Tree Frog (*Litoria castanea*)	Likely	Significant impact unlikely
Regent Honeyeater (*Anthochaera phrygia*)	Likely	Potential significant impact (precautionary)
Gang-gang Cockatoo (*Callocephalon fimbriatum*)	Known	Likely significant impact
Glossy Black-Cockatoo (*Calyptorhynchus lathami*)	Known	Potential significant impact
Painted Honeyeater (*Grantiella picta*)	Likely	Potential significant impact
Swift Parrot (*Lathamus discolor)*	Likely	Potential significant impact
Superb Parrot (*Polytelis swainsonii*)	Known	Potential significant impact
Pilotbird (*Pycnoptilus floccosus*)	Likely	Potential significant impact (precautionary)
Golden Sun Moth (*Synemon plana*)	Likely	Potential significant impact
Bogong Moth (*Agrotis infusa*)	SEARs	N/A (not a listed threatened species)
Key's Matchstick Grasshopper (*Keyacris scurra)*	Likely	Potential significant impact
Large-eared Pied Bat (*Chalinolobus dwyeri*)	Likely	Significant impact unlikely
Spotted-tailed Quoll (*Dasyurus maculatus*)	Likely	Potential significant impact
Broad-toothed Rat (*Mastacomys fuscus*)	Likely	Significant impact unlikely
Greater Glider (*Petauroides volans*)	Known	Potential significant impact
Yellow-bellied Glider (*Petaurus australis*)	Known	Potential significant impact
Koala (*Phascolarctos cinereus*)	Likely	Likely significant impact
Smoky Mouse (*Pseudomys fumeus*)	Likely	Significant impact unlikely
Grey-headed Flying-fox (*Pteropus poliocephalus*)	Likely	Potential significant impact (foraging habitats only)
Pink-tailed Legless Lizard (*Aprasia parapulchella*)	Known	Likely significant impact
Striped Legless Lizard (*Delma impar*)	Likely	Potential significant impact
Aquatic		
Flatheaded Galaxias (*Galaxias rostratus*)	Potential	Significant impact unlikely
Southern Pygmy Perch (*Nannoperca australis*)	Potential	Significant impact unlikely
Macquarie Perch (*Macquaria australasica*)	Potential	Significant impact unlikely
Trout Cod (*Maccullochella macquariensis*)	Potential	Significant impact unlikely
Silver Perch (*Bidyanus bidyanus*)	Potential	Significant impact unlikely
Migratory species		
Fork-tailed Swift (*Apus pacificus*)	Known	Potential significant impact (precautionary)
Sharp-tailed Sandpiper (*Calidris acuminata*)	Likely	Potential significant impact

MNES	Likelihood of occurrence	Significant impact
Red-necked Stint (*Calidris ruficollis*)	Likely	Potential significant impact
Latham's Snipe (*Gallinago hardwickii*)	Likely	Potential significant impact
White-throated Needletail (*Hirundapus caudacutus*)	Likely, From Appendix A of Supplementary SEARs	Significant impact unlikely
Black-faced Monarch (*Monarcha melanopsis*)	From Appendix A of Supplementary SEARs	Significant impact unlikely
Satin Flycatcher (*Myiagra cyanoleuca*)	Known, From Appendix A of Supplementary SEARs	Significant impact unlikely
Rufous Fantail (*Rhipidura rufifrons*)	Known, From Appendix A of Supplementary SEARs	Significant impact unlikely
Common Greenshank (*Tringa nebularia*)	Likely	Potential significant impact
Marsh Sandpiper (*Tringa stagnatilis*)	Likely	Potential significant impact

2. Significant impact assessments for relevant MNES

2.1 Threatened ecological communities

2.1.1 White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

White Box Yellow Box Blakely's Red Gum Woodland (Box Gum Woodland) ecological community is listed Critically Endangered under both the EPBC Act and the BC Act.

Description

Box Gum Woodland is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs, and the dominance, or prior dominance, of White Box (*Eucalyptus albens*), Yellow Box (*Eucalyptus melliodora*) and Blakely's Red Gum (*Eucalyptus blakelyi*). Tree-cover is generally discontinuous and consists of widely-spaced trees of medium height (TSSC, 2006).

In its pre-1750 state, this ecological community was characterised by (TSSC, 2006):

- A ground layer dominated by tussock grasses
- An overstorey dominated or co-dominated by White Box, Yellow Box or Blakely's Red Gum
- A sparse or patchy shrub layer.

Box Gum Woodland listed under the EPBC Act is defined as follows (DECCW, 2010):

- The ecological community must be, or have previously been, dominated or co-dominated by one or more of the following overstorey species (or hybrids of these species with any other Eucalyptus species): White Box (*Eucalyptus albens*), Yellow Box (*E. melliodora*) or Blakely's Red Gum (*E. blakelyi*).
- It must have a predominately native understorey (ie more than 50% of the perennial vegetative groundlayer must comprise native species).
- The area covered by the ecological community (ie the patch size) must be greater than 0.1 hectares (ha) and contain 12 or more native understorey species (excluding grasses), including one or more important species (as defined in the listing advice).
- If the groundlayer does not meet this last criterion (ie does not contain 12 or more native forb species and one or more important species) then the patch size must be 2 ha or greater in area and have an average of 20 or more mature trees per ha, or natural regeneration of the identified dominant overstorey eucalypts (Department of Environment and Heritage, 2006).

Areas which do not meet the criteria are not considered to be part of the listed ecological community. In addition, communities with a continuous shrub layer of more than 30% cover are excluded from the listed ecological community, as they are considered to be shrubby woodland and do not constitute Box-Gum Grassy Woodland (DECCW, 2010).

Box Gum Woodland occurs along the western slopes and tablelands of the Great Dividing Range from southern Queensland through New South Wales and the Australian Capital Territory to Victoria (TSSC, 2006).

Due to the ecological community's occurrence on fertile soils it has been extensively cleared for agriculture and intact remnants are now extremely rare (DECCW, 2010). Clearing and fragmentation for urban, rural residential, agricultural and infrastructure development remain ongoing threats to this ecological community, while degradation resulting from inappropriate management and weed invasion by introduced perennial grasses continues to erode the conservation value of remnant areas (DECCW, 2010).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this TEC is as follows:

- Approved listing advice for the TEC (TSSC, 2006): *Commonwealth Listing Advice on White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. Available from: http://www.environment.gov.au/biodiversity/threatened/communities/box-gum.html.
- The "White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland National Recovery Plan" (2010) was developed by New South Wales Department of Environment, Climate Change and Water (DECCW). Key objectives include:
  - increasing protection of sites in good condition
  - increasing landscape function of the ecological community through management and restoration of degraded sites
  - increasing transitional areas around remnants and linkages between remnants
  - bringing about enduring changes in participating land manager attitudes and behaviours towards environmental protection and sustainable land management practices to increase extent, integrity and function of Box-Gum Grassy Woodland.

Specific impacts

The following vegetation types recorded within the project footprint are considered consistent with the EPBC Act Box Gum Woodland listing based on condition criteria:

- PCT 266 White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion.
- PCT 268 White Box – Blakely's Red Gum - Long-leaved Box – Norton's Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion.
- PCT 277 Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion.
- PCT 278 Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion.
- PCT 280 Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South-Western Slopes Bioregion
- PCT 283 Apple Box – Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion.
- PCT 352 Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion.
- PCT 1330 Yellow Box – Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion.

Based on these assessments, the project would result in direct impacts to 111.47 ha (12%) of EPBC Act listed Box Gum Woodland within the project footprint. Approximately 73.82 ha (66%) of this would be subject to total clearing (ie total clearing zone) within the footprint of proposed structures, construction compounds and access tracks. Another 37.65 ha (34%) would be partially cleared (ie retention of the understorey) within the transmission line easement. 33% of Box Gum Woodland subject to direct impacts is in a low condition and 63% of this has already been cleared and exists as derived grassland. Another 22% is in moderate condition and less than half of all Box Gum Woodland impacted (ie 44%) is in high to very high condition.

Significant impact criteria

An action is likely to have a significant impact on a Critically Endangered ecological community if there is a real chance or possibility that it will:

Reduce the extent of an ecological community

The project is proposed to impact approximately 111.47 ha of Box Gum Woodland, comprising 8% of Box Gum Woodland and 2% of native vegetation within the project footprint. The national extent of Box Gum Woodland is approximately 416,326 ha, with 250,729 ha (60%) occurring in NSW (DECCW, 2010). The project would impact less than 0.03%of extant Box Gum Woodland on a national scale, and 0.04% of extant Box Gum Woodland in NSW. As such, the project would impact upon relatively small proportion of Box Gum Woodland present within NSW and across its range.

Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines

EPBC Act Box Gum Woodland situated within the project footprint is already subject to considerable fragmentation as a result of existing land use within the locality.

Of the Box Gum woodland occurring within the project footprint, approximately 35% is in moderate condition, 38% is in high to very high condition and 36 % is in low condition. 26 % of that occurring in the project footprint occurs as derived native grassland. Despite the existing condition of Box Gum Woodland within the project footprint, proposed work is likely to result in further fragmentation and degradation of this TEC given the linear nature of the development. Linear infrastructure (including transmission lines) is known to cause ecosystem fragmentation (Nayak et al., 2020). This in turn leads to habitat and biodiversity loss, as well as edge effects[1], alterations to hydrology patterns and the disruption of ecosystem processes (Nayak et al., 2020; Laurance et al., 2009; Goosem, 2007).

It is unlikely that proposed clearing would result in the complete isolation of any Box Gum Woodland remnants. Rather, the size of remaining fragments would be further reduced making these more susceptible to ongoing degradation and stochastic events and may potentially compromise long-term viability.

Adversely affect habitat critical to the survival of an ecological community

While there are limitations to defining and locating habitat critical for the survival of Box Gum Woodland, it generally consists of PCTs consistent with the ecological community both in high and low condition (DECCW, 2010). It must be noted that clearing and fragmentation for urban, rural residential, agricultural and infrastructure development are identified as the main threats to this ecological community (DECCW, 2010). Vegetation integrity plots undertaken for PCTs considered consistent with Box Gum Woodland, and the vegetation condition of these PCTs ranged from low to very high. The “White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland National Recovery Plan” (DECCW, 2010) advises that all areas of Box Gum Woodland which meet minimum condition criteria as well as some degraded areas should be considered critical to the survival of the Box Gum Woodland.

[1] Changes in abiotic and biotic environment associated with the abrupt, artificial margins between natural habitat and cleared areas (Goosem, 2007).

The project may directly impact up to 111.47 ha of Box Gum Woodland (0.3% of extant Box Gum Woodland within NSW) (TSSC 2006). Remaining TEC remnants may be subject ongoing indirect impacts through mechanisms such as edge effects, resource partitioning, changes in community structure and reduced genetic exchange (Goosem, 2022; Laurance et al, 2009).

Given the above, the project would adversely affect habitat considered critical to the survival of Box Gum Woodland.

Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns

Direct impacts such as vegetation clearing and potential increased erosion associated with the project, as well as indirect impacts of edge effects have the potential to cause alterations to groundwater levels and surface water drainage patterns within the project. Changes to surface water runoff patterns and soil hydrological regimes are a known threat to Box Gum Woodland (DECCW, 2010). Mitigation measures such as preparation of a Soil and Water Management Plan (SWMP) including Erosion and Sediment Control Plans (ESCP) and a Water Quality Monitoring Plan (WQMP) are likely to mitigate construction impacts to groundwater and surface water drainage patterns such that any impacts to Box Gum Woodland are expected to be minimal.

Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting

Key impacts of the project to Box Gum Woodland relate to vegetation clearing including total and partial clearing work. Mitigation measures for the project to avoid impacts include micro-siting infrastructure and disturbance areas within previously disturbed/cleared areas, use of existing tracks and clearings (where possible) and implementation of a Biodiversity Management Plan to minimise/mitigate indirect impacts and evaluate effectiveness of all mitigation measures.

Remaining areas of Box Gum Woodland that would be retained immediately adjacent to the project footprint may be subject to ongoing edge effects, which may alter species composition (eg through weed incursion). Weed management and protocols for managing the spread of weeds will be included within the CEMP to minimise the potential for this to occur. Edge effects are restricted to the periphery of any patch and thus are considered unlikely to cause a substantial change in species composition that may lead to a decline or loss of functionally important species.

Will the action cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:

1. ***assisting invasive species, that are harmful to the listed ecological community, to become established***
2. ***causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community***

The project may directly impact up to 111.47 ha of Box Gum Woodland or 0.1% of native vegetation within the project footprint, with the potential to indirectly impact any adjacent areas of Box Gum Woodland located outside the project footprint. In particular, edge effects and the promotion or introduction of

invasive species are likely to occur as a result of construction and operational activities for the project. While weed control and monitoring programs are to be implemented during the construction and early operation, the ongoing and compounding impacts during operation/maintenance phase such as weed invasion, increased erosion and a loss of structural composition is likely to further reduce the quality and integrity of Box Gum Woodland adjacent to the project footprint, beyond existing levels of degradation.

Interfere with the recovery of an ecological community

Land use and management change, development of linear public infrastructure and weed invasion are listed as drivers and ongoing threats to the decline of Box Gum Woodland.

Recovery and threat abatement actions for Box Gum includes (TSSC 2006):

- protection, expansion and connection of remnants of the ecological community
- avoiding the use of fertilisers or soil disturbance in or near remnants
- in very small derived grassland sites, avoiding planting trees as they may reduce the floral diversity through competition for light, nutrients and water
- planting and other rehabilitation-focussed disturbance focussed on the edge of patches, expanding them, rather than within the patches
- exclusion of continuous grazing from remnants, strategic grazing in areas containing diverse native understorey and burning/slashing to allow tree seedlings, forbs and shrubs to establish.

The project is considered likely to interfere with the abovementioned recovery actions given it would result in further direct and indirect impacts to Box Gum Woodland. Efforts to further avoid, mitigate and manage impacts to Box Gum Woodland would be considered during detailed design and addressed as a part of any construction and operational management plans.

Conclusion

The project is considered likely to have a significant impact on Box Gum Woodland, through the removal of 111.47 ha of habitat, considered likely to constitute habitat that is critical to the survival of the TEC. A summary of the NSW assessment bilateral requirements for the TEC are presented in below. A summary of the NSW assessment bilateral requirements for the TEC are presented in Table A18-3 below.

Table A18- 3: NSW assessment bilateral requirements for Box Gum Woodland

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this community, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. The extent of EPBC Act listed Box Gum Woodland TEC is shown in Figure 6-1 of Attachment 1. Current distribution map for Box-Gum Grassy Woodland (DECCW, 2010) The "White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland National Recovery Plan" (DECCW, 2010) is the key recovery plan for this community. This Plan notes that all areas of Box Gum Woodland which meet minimum condition criteria as well as some degraded areas should be considered critical to the survival of the Box Gum Woodland.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Survey guidelines for Box Gum Woodland are provided in the recovery plan for this community (DECCW, 2010) and field data was used to assign vegetation integrity score for any given observed patch. The field survey techniques used to undertake surveys were in accordance with the BAM (DPIE 2020a) with a detailed field validation method provided in Section 4.4 of the BDAR. Native vegetation survey methods were undertaken in accordance with the BAM (DPIE, 2020a) within the project footprint during the following dates: • 16 October to 27 November 2020. • 22 to 26 February 2021. • 1 March to 28 May 2021. • 21 July to 12 August 2021. • 13 September to 30 November 2021. • 1 December to 28 February 2021/2022. • 1 September to 31 November 2022. More specifically, the following methods were implemented to identify, map and assess TECs within the project footprint: • Desktop searches of public databases to identify potentially occurring TEC • Field validation of vegetation carried out by Eco Logical Australia and Niche for all accessible lands (survey timing above). • In relation to the inaccessible lands, the TECs mapped during the field survey were used in conjunction with desktop assessments, to extrapolate the likely presence and distribution of TECs therein. • An assessment of PCT alignment with each potentially occurring EPBC Act TEC using information within the BioNet Vegetation Classification Database (DPE, 2022) and relevant key criteria and thresholds documented within the relevant Commonwealth conservation advice.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Direct impacts of the project on Box Gum Woodland includes the removal of approximately 111.47 ha of habitat. The area of potential impact for Box Gum Woodland is shown in Figure 13-2 of the BDAR. The national extent of Box Gum Woodland is approximately 416,326 ha

NSW Assessment Bilateral requirements	
	and 250,729 ha in NSW (DECCW, 2010). The project would impact less than 0.03% of extant Box Gum Woodland on a national scale, and 0.04% of extant Box Gum Woodland in NSW. Remaining TEC remnants may be subject ongoing indirect impacts through mechanisms such as edge effects, resource partitioning, changes in community structure and reduce genetic exchange.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to the TEC: • Project design refinement to potentially avoid impacts to Box Gum Woodland wherever possible as a part of the detailed design • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to Box Gum Woodland, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which would prioritise more intact (high and very high condition) Box Gum Woodland remnants at the interface to construction • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation • Vegetation clearing and maintenance guidelines and procedures for operation to ensure maintenance commitments in the BDAR and EIS are met, avoid access and disturbance in biodiversity exclusion zones and areas of high biodiversity conservation significance and avoid disturbance of vegetation that does not require maintenance during operation. • Soil and Water Management Plan (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plan to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Box Gum Woodland is estimated at 111.47 ha of habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of Box Gum Woodland within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this TEC are considered to be significant as per the outcomes of the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Box Gum Woodland TEC are considered likely to be significant as detailed above. Residual impacts to the TEC would be offset through the NSW Biodiversity Offsets Scheme (BOS). 4,917 ecosystem credits are estimated to be required to address residual impacts for this TEC. Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for this TEC as a result of residual impacts of the project are addressed further in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.

NSW Assessment Bilateral requirements	
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met by implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. Any significant residual impacts not addressed by the BAM will be addressed in accordance with the EPBC Act Environmental Offset Policy.

2.1.2 Alpine Sphagnum Bogs and Associated Fens

Alpine Sphagnum Bogs and Associated Fens ecological community is listed as Endangered under the EPBC Act and not listed under the BC Act.

Description

The Alpine Sphagnum Bogs and Associated Fens (Alpine Sphagnum Bogs) ecological community generally has sharp boundaries and is easily delineated from other alpine vegetation communities. Many of its plant species rarely occur in other vegetation assemblages.

Although it is not always the dominant genus, the Alpine Sphagnum Bogs ecological community can usually be defined by the presence or absence of *Sphagnum spp*., the most common of which is *Sphagnum cristatum.* A 'Sphagnum bog' ecological community is often defined as a community where the *Sphagnum* spp. ground cover is more than thirty per cent. However, there are some sites within the Alpine Sphagnum Bogs ecological community that are dominated by shrubs or *Restionaceae* spp., where *Sphagnum* spp. are only a minor component, and other sites where *Sphagnum* has been depleted or lost due to disturbance. In these cases, the sites may still be considered to be part of this ecological community if other key species are present and a peat substratum is evident.

The Alpine Sphagnum Bogs ecological community is scattered throughout alpine, subalpine and montane regions of mainland Australia and Tasmania, often (but not always) found above the climatic treeline. Bogs are found in permanently wet areas, such as along streams, valleys edges and valley floors. They are situated on slopes where soils are waterlogged. The key to bog formation is a good supply of groundwater and an impeded drainage system that keeps the water table at or near the surface. The major threats to this ecological community are impacts of wildfires, climate change, weed incursions, feral horses and human activities in alpine parks (TSSC, 2009).

There are no specific areas listed as critical habitat, however it is considered likely that all areas of habitat are important for the long-term survival of the community.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- "Approved Conservation Advice for Alpine Sphagnum Bogs and Associated Fens ecological community" (DEWHA, 2008d) in effect under the EPBC Act from 7 January 2009.
- Approved listing advice for the TEC (TSSC, 2009): "*Commonwealth Listing Advice on Alpine Sphagnum Bogs and Associated Fens*". Available from: http://www.environment.gov.au/biodiversity/threatened/communities/pubs/29-listing-advice.pdf
- The "*National Recovery Plan for the Alpine Sphagnum Bogs and Associated Fens Ecological Community*" (DECCW, 2015) was developed by the ACT Department of Environment. The primary objective of this plan is to "maintain or extend the current known extent (area) and maintain or improve the condition of the Alpine Sphagnum Bogs over the life of the recovery plan. Increasing landscape function of the ecological community through management and restoration of degraded sites".

Specific impacts

The following vegetation type recorded within the project footprint was considered to be consistent with the Alpine Sphagnum Bogs listing criteria:

- PCT 939 – Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South-eastern Highlands Bioregion.

The project could directly impact up to 0.56 ha (22%) of the 2.5 ha of Alpine Sphagnum Bogs situated within the project footprint. Alpine Sphagnum Bog remnants within and adjacent to the project footprint occur as four discrete remnant patches predominantly located at the interface and within the existing transmission line easement situated along a 6.5 km stretch of the Bago State Forest. These remnants are situated within boggy areas at the head waters of streams and were delineated by the presence of Sphagnum cristatum. All Alpine Sphagnum Bog communities within the project footprint are in a high condition. As the remnant patches are easy to identify it is likely that impacts to this TEC can be avoided during the detailed design phase.

Of the 0.56 ha of Alpine Sphagnum Bogs proposed to be directly impacted by the project, only 0.32 ha (57%) could be subject to full clearing if it cannot not be avoided during the detailed design phase. The remaining 0.24 ha (43%) situated within the proposed easement (including the Easement Clearance Zone (ECZ) and Hazard Tree Zone (HTZ) disturbance areas) is unlikely to be subject to clearing impacts given the community is predominantly treeless. Despite this, temporary disturbance of these areas is likely during construction. Similarly, Alpine Sphagnum Bog communities to be retained immediately adjacent to the project footprint may be subject to ongoing prescribed impacts in the form of changed hydrology and water quality. Given the persistence of the community in a high condition within the existing transmission line easement however, it is reasonable to conclude project operations will have little impact on Alpine Sphagnum Bogs retained within and adjacent to the project footprint.

Design opportunities to further avoid and minimise project impacts to the TEC will be investigated during detailed design. Mitigation measures including the preparation and implementation of the SWMP, ESCP and WQMP are also recommended to ensure any impacts associated with the project

are effectively mitigated.

Significant impact criteria

An action is likely to have a significant impact on an endangered ecological community if there is a real chance or possibility that it will:

Reduce the extent of an ecological community

The project could directly impact up to 0.56 ha of Alpine Sphagnum Bogs, comprising 22% of the total extent of Alpine Sphagnum Bogs occurring within the project footprint. This ecological community consists of highly fragmented, isolated remnants, and its present geographic extent on a national scale is estimated at approximately 8,000 ha (TSSC, 2009). The potential impact of the project is limited to less than 0.01% of the national extent of the ecological community.

Four discrete remnant patches of the community were recorded within and adjacent to the project footprint during field surveys within the Bago State forest. Two of the four patches are situated completely outside the proposed clearing footprint. A very small incursion (ie 0.01 ha) could occur at the edge of the third remnant patch. In relation to the fourth and northern-most patch, approximately 0.55 ha (61%) of the 0.90 ha patch could be subject to direct impacts if not avoided during the detailed design phase.

The project proposes to impact approximately 0.56 ha of Alpine Sphagnum Bogs comprising less than 0.01% of the national extent of the ecological community. The project would impact only two of the four remnant patches within the project footprint and all four patches are expected to persist in a very high condition state post-construction. Despite this, the project has the potential to reduce the extent of the ecological community if avoidance is not possible given total clearing works are proposed within the extent of the community.

Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines

Four discrete remnant patches of the Alpine Sphagnum Bog TEC were recorded within and adjacent to the project footprint during field surveys within a 6.5 km stretch of the Bago State Forest. Two of the four patches are situated completely outside of the indicative disturbance area. A very small incursion (ie 0.01 ha) will occur at the edge of the third remnant patch. In relation to the fourth and northern-most patch, the western half (0.55 ha) of the patch would be subject to total and partial clearing impacts. Given the location and extent of proposed clearing, it is unlikely that the project would result in any increased fragmentation of the community within the project footprint. This is particularly true given all four patches are expected to persist in a very high condition state post-construction, based on occurrence of the community within the existing transmission line easement within Bago State Forest.

Adversely affect habitat critical to the survival of an ecological community

Habitat critical to the survival of Alpine Sphagnum Bogs has not been established (TSSC, 2009; DEWHA, 2008a). However, due to the restricted and highly fragmented nature of this ecological community across its range, all known locations of this ecological community, whether in high or low condition, are considered to be of high conservation value (DoE, 2015a). As such, the project's impact to 0.56 ha or 0.01% of that remaining has the potential to adversely affect habitat critical to the survival of the Alpine Sphagnum Bogs TEC.

Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns

Since Alpine Sphagnum Bogs have specific requirements for waterlogged soils, a good supply of groundwater and an impeded drainage system/high water table, any alterations to groundwater levels and surface drainage patterns as a result of the project have the potential to impact this ecological community. Whist there is potential for increased erosion and impacts to ground and surface water drainage as a result of the proposed development, persistence of high condition Alpine Sphagnum Bogs TEC remnants within the existing transmission line easement suggests that this community is unlikely to be significantly affected. Mitigation measures including the preparation and implementation of the SWMP, ESCP and WQMP are recommended to ensure any impacts associated with the proposed work are effectively mitigated. Given the above, the project is unlikely to modify or destroy abiotic factors necessary for the TECs survival.

Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting

Four discrete remnant patches of the Alpine Sphagnum Bog TEC occur within and adjacent to the project footprint, predominantly at the interface to and within the existing transmission line easement in Bago State Forest. Though these patches are predominantly situated within an operational transmission line easement, they have persisted in a very high condition state. Whilst some total and partial clearing is proposed within two of the four Alpine Sphagnum Bog remnants within the project footprint (22% of the total TEC extent) if unable to be avoided, the proposed project activities are not considered likely to result in further degradation of the community by means of changed floristic composition such that the TEC is likely to further decline or lose functionally important species. This is demonstrated by the persistence of high condition patches of the TEC within the existing transmission easement.

Design opportunities to further avoid and minimise project impacts to the TEC will be investigated during detailed design. Mitigation measures including the preparation and implementation of the SWMP, ESCP and WQMP are also recommended to ensure any impacts associated with the project are effectively mitigated.

Will the action cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:

1. ***assisting invasive species, that are harmful to the listed ecological community, to become established***
2. ***causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community***

Four discrete remnant patches of the Alpine Sphagnum Bog TEC occur within and adjacent to the project footprint, predominantly at the interface to and within the existing transmission line easement in Bago State Forest. Whilst these patches are predominantly situated within an operational transmission line easement, they have persisted in a very high condition state. Given this, it is reasonable to conclude that remaining TEC remnants are unlikely to be subject to ongoing degradation as a result of the proposed works.

The project would not involve the use of fertilisers and herbicides. Hydrocarbon spills pose a risk to the TEC during project construction and operation. Other chemicals required to facilitate construction may also pose a risk. However, controls implemented during the construction and operation phases of the project (such as bunding at construction compounds, regular vehicle maintenance and hydrocarbon spill kits) will ensure that these risks are mitigated as much as practicable.

Whilst there is potential for weed introduction and spread as a result of the development, these risks are considered low once effective controls (such as hygiene protocols) are implemented during project construction and operation.

Interfere with the recovery of an ecological community

Recovery and threat abatement actions for Alpine Sphagnum Bogs include (TSSC, 2009):

- map current extent of the ecological community and create centralised database that will provide a timeline for decline and recovery process
- prevent further loss of the ecological community
- ensure development or maintenance activities do not result in adverse impacts
- eradicate or control weed infestations within the ecological community
- manage adverse trampling, browsing and grazing within the ecological community
- develop and implement suitable fire management strategies to prevent further loss
- undertake trial for successful reestablishment of the ecological community
- implement appropriate restoration and translocation sites for the ecological community.

Potential impacts as a result of the project include the direct loss of up to 0.56 ha of the Alpine Sphagnum Bogs TEC, which would interfere with the abovementioned recovery actions.

Efforts to further avoid, mitigate and manage impacts to Alpine Sphagnum Bogs will be considered during detailed design and described within the associated management plans as required.

Conclusion

Based on the above assessments, project activities have the potential to reduce the extent of the Alpine Sphagnum Bogs TEC, adversely affect habitat critical to the community's survival and interfere with its recovery. Under the precautionary principle, the project is considered likely to have a potential significant impact on the Alpine Sphagnum Bogs TEC.

A summary of the NSW assessment bilateral requirements for the TEC are presented in Table A18- 4.

Table A18- 4: NSW assessment bilateral requirements for the Alpine Sphagnum Bogs TEC

NNSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this community, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. The extent of EPBC Act listed Alpine Sphagnum Bogs TEC is shown in Figure 6-1 of Attachment 1. Current distribution map for Alpine Sphagnum Bogs and Associated Fens (DCCEEW, 2022o) The "*National Recovery Plan for the Alpine Sphagnum Bogs and Associated Fens*" (DoE, 2015a) is the key recovery plan for this community. This Plan notes that all occurrences of Alpine Sphagnum Bogs and Associated Fens are of high conservation value and should be considered critical to the survival of the community.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Survey guidelines for Alpine Sphagnum Bogs and Associated fens are provided in the recovery plan for this community (DoE 2015a). Field data was used to assign condition classes for all observed patches. The field survey techniques used to undertake surveys were also in general accordance with the BAM (Department of Planning, Industry and Environment (DPIE) 2020a) with a detailed field verification method provided in Section 4.4 of the BDAR. Native vegetation survey methods were undertaken in accordance with the BAM (DPIE, 2020a) within the project footprint during the following dates: • 16 October to 27 November 2020 • 22 to 26 February 2021 • 1 March to 28 May 2021 • 21 July to 12 August 2021 • 13 September to 30 November 2021 • 1 December to 28 February 2021/2022 • 1 September to 31 November 2022. More specifically, the following methods were implemented to identify, map and assess TECs within the project footprint: • Desktop searches of public databases to identify potentially occurring TEC • Field validation of vegetation carried out by Eco Logical Australia and Niche for all accessible lands (survey timing above). • In relation to the inaccessible lands, the TECs mapped during the field survey were used in conjunction with desktop assessments, to extrapolate the likely presence and distribution of TECs therein. An assessment of PCT alignment with each potentially occurring EPBC Act TEC using information within the BioNet Vegetation Classification Database (DPE, 2022) and relevant key criteria and thresholds documented within the relevant Commonwealth conservation advice.
Description of the relevant impacts and its regard to the full national	Direct impacts of the project on Alpine Sphagnum Bogs include removal of approximately 0.56 ha of habitat. The area of potential impact for Alpine Sphagnum

NNSW Assessment Bilateral requirements	
extent of the species or community's range	Bogs is shown in Figure 13-2 of the BDAR. The distribution map above shows the current generalised national extent of 8,000 ha for the ecological community (TSSC, 2009). The project proposes to directly impact 0.01% of extant Alpine Sphagnum Bogs on a national scale. Indirect and prescribed impacts associated with changed hydrology, water quality, erosion and weed invasion are considered low risk where appropriate mitigation measures are implemented during the construction and operation of the project.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to the TEC: • Project design refinement to avoid impacts to Alpine Sphagnum Bogs and Associated Fens wherever possible during detailed design. • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to Alpine Sphagnum Bogs and Associated Fens, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider Alpine Sphagnum Bogs and Associated Fens areas with high value/high VI score. • Vegetation clearing and maintenance guidelines and procedures that address avoiding access and disturbance in biodiversity exclusion zones identified during construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Vegetation clearing and maintenance guidelines and procedures for operation to ensure maintenance commitments in the BDAR and EIS are met, avoid access and disturbance in biodiversity exclusion zones and areas of high biodiversity conservation significance and avoid disturbance of vegetation that does not require maintenance during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Alpine Sphagnum Bogs is estimated at 0.56 ha of habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of Alpine Sphagnum Bogs within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Alpine Sphagnum Bogs TEC are considered likely to be significant as detailed above. Residual impacts to the TEC would be offset through the NSW Biodiversity Offsets Scheme (BOS). 12 ecosystem credits are estimated to be required to address residual impacts for this TEC. Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for this TEC as a result of residual impacts of the project are addressed further in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.
Details of the offset package to compensate for significant residual impacts including details of the credit	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options:

NNSW Assessment Bilateral requirements	
profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	• The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. Any significant residual impacts not addressed by the BAM will be addressed in accordance with the EPBC Act Environmental Offset Policy.

2.2 Threatened flora

2.2.1 Bynoe's Wattle (*Acacia bynoeana*)

Bynoe's Wattle is listed as Vulnerable under the EPBC Act and Endangered under the BC Act.

Description

Bynoe's Wattle is an erect or spreading shrub to a metre high mainly found in heath and dry sclerophyll forest on sandy soils. It is often found in open, slightly disturbed sites including trail margins, edges of roadside spoil mounds and in recently burnt patches. Associated overstorey species for Bynoe's Wattle include *Eucalyptus gummifera, Eucalyptus haemastoma, Eucalyptus parramattensis, Eucalyptus sclerophylla, Banksia serrata and Angophora bakeri.* It is also found among the shrub species *Banksia spinulosa, Acacia oxycedrus, Acacia myrtifolia and Kunzea spp*. Bynoe's Wattle flowers between September and March (DoE, 2013a).

Bynoe's Wattle is found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains. It is currently known from about 30 locations, with the size of the populations at most locations being very small (1-5 plants) (DoE, 2013a). There are three known records of the species within 20km of the footprint. Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022p) indicates that the portion of the project around the Goulburn area is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may occur'. As such, the species is considered to have the potential to occur within the project footprint.

Is this part of an important population?

No important populations have been defined for Bynoe's Wattle. However, potential habitat for Bynoe's Wattle within the project footprint is located within the southern extent of the species range, in areas where it is predicted the species habitat is likely to, or may occur, according to the species SPRAT profile. Therefore, any individuals present within the project footprint are likely to occur on the edge of the species range and thus may be considered part of an important population.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for Bynoe's Wattle: Department of the Environment (DoE, 2013a) *Approved Conservation Advice for* Bynoe's Wattle *(Bynoe's wattle).* Available from: https://www.environment.gov.au/biodiversity/threatened/species/pubs/8575-conservation-advice.pdf
- There is no adopted or made Recovery Plan for this species.

Specific impacts

The Bynoe's Wattle is considered to have a moderate likelihood of occurrence in the Bungonia and Crookwell IBRA subregions based on the presence of suitable habitat and associated PCT 1093.

The project would result in the clearing of approximately 1.2 ha of potential habitat in the Bungonia IBRA subregion (PCT 1093), and 1.8 ha of potential habitat in the Crookwell IBRA subregion (PCT 1093). Modelled habitat within the project footprint was 81.44 ha, from which 36 targeted flora searches did not detect the species. There are three Bionet records (DPIE 2021) within 20 kilometres of the project footprint (these occur within the Bungonia, Crookwell and adjacent Burragarong subregions). Due to incomplete coverage of threatened flora surveys, the species' presence could not be discounted and it is still considered to have the potential to occur within the project footprint.

Bynoe's Wattle has moderate potential to occur within the project footprint in the Bungonia and Crookwell IBRA subregions. In the associated subregions there is:

- 25.32 ha of potential habitat (comprising PCTs 679, 1191 and 1256) in Bungonia, of which 1.2 ha would be impacted by the project (4.7%)
- 56.12 ha of potential habitat (comprising PCT 1256) in Crookwell, of which 1.8 ha would be impacted by the project (3.2%).

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

As the project footprint is towards the southern extent of the known range of Bynoe's Wattle, any individuals present could form part of an important population of the species. It is noted however that there are three records further south of the project area.

No individuals of Bynoe's Wattle were recorded within the project footprint during targeted surveys. However, due to the incomplete coverage of targeted surveys, the species' presence could not be discounted and it is considered to have the potential to occur within the project footprint. The project would result in the removal of 3.0 ha of potential habitat for Bynoe's Wattle (1.2 ha within the Bungonia IBRA subregion, and 1.8 ha within the Crookwell IBRA subregion).

The project is considered to have some chance of leading to a long-term decrease in and important population of the species if the species occurs within the disturbance area and a reasonable portion of the associated habitat is impacted, such that a long-term decrease would occur.

It is noted that the species tolerates and in some cases may prefer some level of disturbance, being known to occur on road verges and slashed easements. Avoidance and mitigation measures for the project would occur. These factors reduce the likelihood of a long-term decrease in population.

Further detailed recommendations as to specific mitigation measures to prevent impacts to potential habitat for the species have been included in this report.

Reduce the area of occupancy of an important population

The species is not known to occur in the project footprint. The extent of impact within the project footprint on the species is 3.0 ha of potential habitat. It is considered unlikely that the species would be entirely removed from any potential area of occurrence such that area of occupancy would be reduced (e.g. on a 2km grid square basis).

Of the potential habitat within the project footprint, it is unlikely that the species is restricted to the area being directly impacted should it occur, and thus its area of occupancy may include all potential habitat within the project footprint (81.44 ha). However, based on the removal of 3.0 ha of potential habitat, should the species occur, the project may reduce the area of occupancy of the species.

Fragment an existing important population into two or more populations

While no individuals of Bynoe's Wattle have been recorded within the project footprint, the species is still considered to have a moderate likelihood of occurrence and if present, may form part of an important population.

The project would directly impact potential habitat for the species and has the potential to result in indirect impacts to the habitat. The potential habitat for the species, PCT 1093, is present in both continuous and fragmented states within the project footprint. The indicative disturbance area is patchily distributed within the project footprint, with few areas of continuous clearing likely to fragment an area of potential habitat. Where the indicative disturbance area does intersect potential habitat across the footprint, it is mostly along the edge of habitat patches adjacent to previously cleared areas, impacting less than a hectare continuously, and minimally affecting connectivity. Bynoe's Wattle usually reproduces clonally, rarely setting seed. This clonal nature can result in the species occurring in clusters, rather than scattered widely in an area, making it easier to avoid damage to the whole population through avoidance and mitigation measures, like pre-construction surveys and micro siting structures.

Given this information, the project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species or identified in the Conservation Advice for the species.

The project would result in the removal of 3.0 ha of potential habitat for the species.

As per DoE (2013) 'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Given there are no known populations of the species within the project footprint, it is considered unlikely that the project would affect habitat critical to the survival of the species.

Indirect impacts such as edge effects, weed incursion weed spraying along roadsides, road widening and habitat degradation, also have the potential to negatively impact species habitat, however implementation of the proposed mitigation measures would mitigate the risk of indirect impacts.

Disrupt the breeding cycle of an important population

Bynoe's Wattle flowers anytime from September to March and has mature seedpods from September to January.

The project would remove up to 3.0 ha of potential habitat that has the potential to support an important population. The project would impact about 11% of the potential habitat present within the project footprint. If it is assumed that all of the potential habitat may support an important population, then the project has the potential to impact on the breeding cycle of the population through removal of potential habitat for 11% of the population, however this is unlikely as none have been recorded within or near the project footprint.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 3.0 ha of potential habitat. While the species was not recorded, the removal of 3.0 ha (which comprises 11% of the total habitat mapped within the project footprint) of potential habitat that may support an important population is considered to have the potential to lead to species decline if the species occurs. The species tolerates and sometimes prefers some level of disturbance, being known to occur on road verges and slashed easements. As mentioned above, avoidance and mitigation measures for the project are likely to reduce the likelihood of a long-term decrease in population.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for this species. The area of potential habitat is generally already affected by weeds where soil disturbance has occurred with some areas also subject to grazing. Proposed measures to mitigate the risk of indirect impacts, such as weed invasion, will be implemented. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. There is low potential for any plant or machinery used in construction to transport pathogens, to which Bynoe's Wattle are susceptible. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere substantially with the recovery of the species

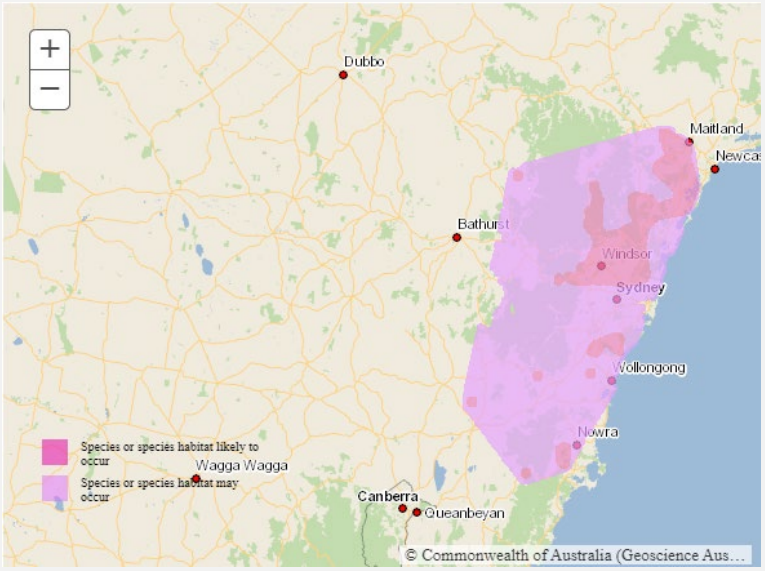
A Recovery Plan has not been prepared for Bynoe's Wattle. The approved Conservation Advice for the species lists a number of research priorities and priority actions to support the recovery of the species. While the project would not substantially interfere with these actions, it would result in disturbance to areas of potential habitat for the species which would contribute to two of the main identified threats to Bynoe's Wattle. These are land clearing leading to habitat loss and fragmentation and inappropriate habitat disturbance (DoE, 2013a).

Conclusion

The project is considered to have the potential to have a significant impact on Bynoe's Wattle due to removal of 3.0 ha of potentially suitable habitat where it has been assumed present on a precautionary basis.

A summary of the NSW assessment bilateral requirements for Bynoe's Wattle are presented in Table A18-5.

Table A18- 5: NSW assessment bilateral requirements for Bynoe's Wattle

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above with a map showing its modelled habitat distribution provided below.  Current distribution map for Box-Gum Grassy Woodland (DCCEEW, 2022p). A Recovery Plan has not been prepared for Bynoe's Wattle. The approved Conservation Advice for the species lists a number of research priorities and priority actions to support the recovery of the species.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) guideline for *Surveying threatened plants and their habitats*. Parallel field traverses involved searching along a grid of parallel transects at a set distance apart according to the lifeform and density of habitat for target candidate flora species. Each traverse was surveyed at walking pace by one ecologist. Two-phase systematic surveys involved a grid spaced at 100-square-metres nested within a one-square-kilometre grid from a topographic map image and then overlayed

NSW Assessment Bilateral requirements	
	onto the project footprint using a geographic information system (GIS). Surveys are undertaken where the 100-square-metre gridlines intersect within suitable habitat for a target species. At each grid-based flora survey location (grid intersect), a 40-metre diameter area (i.e., 1,256 square-metres) was systematically surveyed for the target species by at least two ecologists. Survey effort and dates of targeted surveys for Bynoe's Wattle within the project footprint comprised: • Bungonia subregion: 10 surveys in Jan-22; 24 in Feb-22; 1 in May-22; 51 Sep-21; 9 in Oct-21 (122.27 person hours) • Crookwell subregion: 26 surveys in Jan-22; 86 in Feb-22; 7 in Mar-22; 5 in May-22; 50 in Sep-21; 32 in Oct-21 (276.47 person hours)
Description of the relevant impacts and its regard to the full national extent of the species or community's range	No individuals of Bynoe's Wattle were recorded within the project footprint, however approximately 3.0 ha of potential habitat for the species is to be removed as a result of the project. The current distribution of Bynoe's Wattle stretches from Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains. It is currently known from about 30 locations, with the size of the populations at most locations being very small (1-5 plants) while some sites have between 30 and 50 individuals (DoE, 2013a). The figure above shows the current likely and possible extent of habitat for the species.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Bynoe's Wattle: • Project design refinement to potentially avoid impacts to the species wherever possible. • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations. • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Bynoe's Wattle is estimated at 3.0 ha of habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of Bynoe's Wattle habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirement and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR.

NSW Assessment Bilateral requirements	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • the purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register • establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.2.2 Vulnerable daisies: Yass Daisy *(Ammobium craspedioides)*, Swamp Everlasting *(Xerochrysum palustre)*

The Yass Daisy is listed as Vulnerable under the EPBC Act and the BC Act. The Swamp Everlasting is listed as Vulnerable under the EPBC Act and is not listed under the BC Act.

Description

Yass Daisy

From the *Asteraceae* family, Yass Daisy is a rosette-forming perennial herb that flowers in spring. Leaves are spoon-shaped and are 3–12 cm long, 10–17 mm wide, hairy on top and woolly underneath. The yellow flowers are hemispherical buttons about 10–20 mm wide and are surrounded by straw-coloured papery leaf-like structures, known as bracts. The flowerheads are borne on stems usually 30–60 cm high which are sparsely leafed and edged with narrow 'wings'. Rosettes die off after fruiting.

Yass Daisy is known from localities in NSW near Crookwell, on the southern tablelands to near Wagga Wagga, on the south-western slopes. Most populations occur in the Yass District, at Lake Burrinjuck, Bookham, Rye Park and Dalton. A small population exists in Livingstone National Park, about 30 km south of Wagga Wagga. Other populations are found in Bigga, north of Crookwell and Tumut. Vegetation surveys for the proposed Conroy's Gap Wind Farm found a sizeable population of a few hundred plants on private property near McCullums Creek. Yass Daisy occurs in dry forest, Box-Gum Woodland and secondary grassland derived from clearing of these communities. It grows in association with a large range of eucalypts (*Eucalyptus blakelyi*, *E. bridgesiana, E. dives, E. goniocalyx, E. macrorhyncha, E. mannifera, E. melliodora*, *E. polyanthemos* and *E. rubida*). Yass Daisy is apparently unaffected by light grazing, as populations persist in some grazed sites and it is also found in a number of cemeteries in the region. Yass Daisy occurs within the Murrumbidgee and Lachlan (NSW) Natural Resource Management Regions.

Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022q) indicates that the portion of the project east of Wagga Wagga through to west Goulburn is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered to have the potential to occur within the project footprint.

The distribution of this species overlaps with the following EPBC Act-listed TECs:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, and
- Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory.

Swamp Everlasting

Swamp Everlasting, Family Asteraceae, is a perennial, erect herb growing to 30–100 cm tall (DAWE 2021a). Leaves are narrow, to 100 x 8 mm, and more or less hairless except for cobweb-like hairs along their margins (DAWE 2021a). The large yellow 'daisy' flowers are up to 50 mm across (DAWE 2021a). Flowering occurs predominantly from November to March (DAWE 2021a). The fruit is a narrow dry seed to 3 mm long with a crown of yellow bristles about twice as long as the seed (DAWE 2021a).

Swamp Everlasting is endemic to south-eastern Australia, where it is widely distributed from south-eastern New South Wales, through Victoria, to north-eastern Tasmania (DAWE 2021a). In New South Wales, Swamp Everlasting occurs from the Victorian border near Delegate as far north as Lithgow and ranges up to about 1,300 m altitude (DAWE 2021a).

Since 1990, about 80 subpopulations of Swamp Everlasting have been recorded, with a total abundance estimated at over 30,000 plants (DAWE 2021a). The 2011 Recovery Plan estimated the population size of Swamp Everlasting at approximately 35 subpopulations and 10,000 plants (DAWE 2021a). In some instances, estimates of abundance have been based on area rather than number of individuals (DAWE 2021a). There is incomplete population information from NSW, although there are probably over 15,000 plants occurring in subpopulations throughout escarpment swamps west of the Bega Valley, usually in patches of less than 100 m^2 (DAWE 2021a). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022q) indicates that the portion of the project south of Tumut is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

Swamp Everlasting grows in wetlands including sedge-swamps and shallow freshwater marshes, often on heavy black clay soils (DAWE 2021a). Plants grow in 1 m depth of water on French Island (DAWE 2021a). The species will also grow in more marginal wetland habitats such as seasonally wet areas of native grassland and heath communities (DAWE 2021a). At higher altitudes in NSW Swamp Everlasting also grows in Sphagnum moss bogs (DAWE 2021a). It may occur in the threatened ecological community: Alpine Sphagnum Bogs and Associated Fens, however they have only been recorded in this community outside of NSW (DAWE 2021a).

Is this part of an important population?

No important populations have been defined for the Yass Daisy and the species is known only from near Crookwell to Wagga Wagga and may be locally 'common'. The majority of the recorded individuals and the habitat within the project footprint span the predicted range, however the records and habitat in the project footprint north of Goulburn are on the edge of the predicted range according to the species SPRAT profile. Therefore, the records and habitat in the project footprint likely comprise an important population.

No important populations have been defined for Swamp Everlasting. Swamp Everlasting has a wide but scattered distribution, with a population estimate of about 10,000 plants nationally. Within the areas surveyed, this species was not recorded occurring in large populations (i.e. only six individuals recorded). Swamp Everlasting was recorded in the Snowy Mountains IBRA subregion portion of the project footprint, and these records are just outside the western edge of the predicted habitat as per the species SPRAT profile. Therefore, it is likely that these individuals may constitute part of an important population.

Specific impacts

Seventy-seven clusters of Yass Daisy were recorded within or directly adjacent to the project footprint, representing approximately 7,500 individuals in the following IBRA subregions and PCTs: Crookwell (PCT 1093), Murrumbateman (PCT 278), Bondo (PCT 295, 299 and a pine plantation) and Inland Slopes (PCT 280). The area of known and potential habitat is located through the southern and eastern portion of the project footprint, particularly in the vicinity of Tumut through to Goulburn. With reference to associated TEC/PCTs present in the project footprint, the known and potential habitat comprises of following:

- 375.75 ha of potential habitat (comprising PCTs 679, 1191 and 1256) in Crookwell, of which 32.83 ha would be impacted by the project (8.7%).
- 704.97 ha of potential habitat (comprising PCTs 266, 277, 283, 287, 352 and 1330) in Murrumbateman, of which 40.39 ha would be impacted by the project (5.7%).
- 1,879.02 ha of potential habitat (comprising PCTs 268, 277, 287, 290, 294, 343 and 352) in Inland Slopes, of which 101.44 ha would be impacted by the project (5.4%).
- 8.22 ha of potential habitat (comprising PCT 290) in Bondo, of which 1.56 ha would be impacted by the project (19%).

In total there is 2,967.96 ha of potential and known habitat for the Yass Daisy, of which 176.22ha would be impacted by the project (5.9%). Further, there is an additional 11.60 ha of impacts to non-native habitats (prescribed impacts). Therefore, the total impact to Yass Daisy habitat, including prescribed impacts, is 187.82 ha.

Six Swamp Everlastings were recorded within the project footprint in the Snowy Mountains IBRA subregion in PCT 679. The Swamp Everlasting is associated with the following PCTs: 679, 939. There is 17.54 ha of habitat mapped in the project footprint within the Snowy Mountains IBRA Subregion, of which 1.50 ha of potential habitat would be directly impacted by the project (8.6%).

Whilst both species have been recorded during targeted surveys, given the extent of habitat unsurveyed and the ability of both species to survive on rootstock, both are considered unlikely to be restricted to known habitat areas. Therefore, this assessment employs the precautionary principle and assumes both species have the potential to be present in all areas of suitable habitat.

While the overall impact to potential habitat covers a significant area, management of the transmission line easement would aim to avoid complete vegetation removal, and hence avoid damage to species in the groundcover layer. After mitigation and avoidance measures have been implemented, such as micro-siting transmission line structure locations and avoiding the large scale clearing of treeless areas, the realised scale of the impact to these species is likely to be much smaller.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for these species is as follows:

- Approved Conservation Advice for the Yass Daisy (DEWHA 2008b), in effect under the EPBC Act from 1 October 2008,
- Approved Conservation Advice for the Swamp Everlasting (DAWE 2021a), in effect under the EPBC Act from 23-Nov-2021.
- National Recovery Plan for the Swamp Everlasting (Carter & Walsh 2011), in effect from 10 February 2012.
- Threat Abatement Plan relevant to the Yass Daisy
- Threat abatement plan for competition and land degradation by rabbits, in effect under the EPBC Act from 7 January 2017.

No Threat Abatement Plan has been identified as being relevant for Swamp Everlasting. There is no Recovery Plan for the Yass Daisy. There are no relevant Commonwealth survey guidelines for either of these species.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

The project would result in the clearance of approximately 176.22ha (187.82 ha including prescribed impacts) of potential habitat for the Yass Daisy and 1.50 ha of potential habitat for the Swamp Everlasting.

As discussed above, both species have the potential to constitute an important population within the project footprint due to the records being at or near the limit of the species range.

The project is considered to have the potential to lead to a long-term decrease in these species or a population of the species. This is due to the removal of around 5.9% and 8.6% respectively, of known and potential habitat present across the project footprint for the Yass Daisy and Swamp Everlasting. Recommendations detailing specific avoidance and mitigation measures to prevent impacts to potential habitat for the species have been included in the BDAR.

Reduce the area of occupancy of an important population

There is no defined area of occupancy for these species. The extent of impact within the project footprint on the Yass Daisy is 176.22ha (comprising 5.9% of the total habitat in the project footprint; 187.82 ha including prescribed impacts) and 1.50 ha (comprising 8.6% of the total habitat in the project footprint) on the Swamp Everlasting.

The project would directly impact known and potential habitat for the species and may cause indirect impacts to potential habitat. It is considered likely that the scale of these impacts would render any potential habitats no longer suitable, although mitigation measures aim to reduce this impact. Given that the populations may be considered important as they exist at the limit of their known ranges, the project has the potential to reduce the area of occupancy of an important population, should they occur.

Fragment an existing important population into two or more populations

The project would include construction of transmission line structures, access tracks, substations and construction compounds, however groundcover would not be removed and vegetation maintained up to a certain height within the ECZ and HTZ. It is assumed that both Yass Daisy and Swamp Everlasting records and habitat within the project footprint comprise important populations.

The indicative disturbance area is patchily distributed within the project footprint, with few areas of continuous clearing which are likely to fragment an important population. Where the indicative disturbance area does intersect potential habitat for these species across the project footprint, it is mostly along the edges of habitat patches adjacent to previously cleared areas, removing less than a hectare from each patch and minimally affecting connectivity.

Potential habitat for Yass Daisy is represented by multiple PCTs associated with Box Gum Woodland, as above, in both continuous and fragmented states within the project footprint. While there are known records of this species that intersect the indicative disturbance area, these areas are discontinuous and less than a hectare, and unlikely to cause fragmentation within the surrounding population. It is also assumed that additional, unobserved individuals would be present in appropriate surrounding habitat. The estimated area of habitat affected is minimal and is very unlikely to lead to fragmentation of populations (5.9% of habitat in the project footprint).

Potential habitat for Swamp Everlasting within PCTs 939 and 679, is present in both continuous and fragmented states within the project footprint. There are also known records found in areas adjacent to the associated PCTs. No known records of this species intersect with the indicative disturbance area, and while it is assumed that this species would be present in suitable surrounding habitat, the estimated area of habitat impacted is minimal (8.6% of habitat in the project footprint) and considered very unlikely to lead to fragmentation of populations.

Both species are known to die off at the end of summer before resprouting in winter, and also post disturbance. Minimising any temporary ground storey clearing required outside of flowering times will prevent disruption to the breeding cycle. Mitigation and avoidance strategies, such as pre-clearance surveys and micro siting of transmission line structures will further ensure that impact on important populations for both species is further minimised during construction.

Considering the above information, the project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the Yass Daisy or the Swamp Everlasting.

Yass Daisy has been recorded at four separate locations within the project footprint, and the project would result in the removal of 176.22 ha (187.82 ha including prescribed impacts) of potential habitat.

Swamp Everlasting has been recorded in the Snowy Mountains IBRA subregion portion of the project footprint, and the project would result in the removal of 1.50 ha of known and potential habitat.

As per DoE (2013) 'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal

- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Known and potential habitat for the Yass Daisy is relatively prevalent within the project footprint (2,967.96 ha). The species is also associated with relatively broadly distributed PCTs (including Box-Gum Woodland) with populations of the species persisting in grazed sites. Thus, the habitat within the project footprint is unlikely to be critical to the survival of the species.

The 2011 Recovery Plan estimated the population size of Swamp Everlasting at approximately 35 subpopulations and 10,000 plants. While the individuals recorded within the project footprint have the potential to constitute an important population, given the relatively small area of known and potential habitat to be impacted, it is considered unlikely that the habitat to be impacted would be critical to the survival of the species.

Disrupt the breeding cycle of an important population

Yass Daisy

As stated above, the records and habitat mapped in the eastern portion of the project footprint likely comprise an important population. Yass Daisy flowers from October to November, the leaves then shrivel in summer after fruiting, and the plants survive on below-ground storage material, resprouting with autumn rains (DCCEEW 2022q; NSW NPWS 1999ji). Given the species ability to survive on below-ground storage material, and the retention of groundcover and mid-stratum vegetation throughout much of the project footprint, the project is considered unlikely to disrupt the breeding cycle of any potentially important population.

Swamp Everlasting

As stated above, the individuals and suitable habitat mapped in the Snowy Mountain IBRA Subregion portion of the project footprint are likely to comprise an important population. Swamp Everlasting flowers from November to March and fruits from December to April. The species is a colonial, extensively rhizomatous perennial, dying off in late summer, and, depending on rainfall, resprouting in winter. Reproduction appears to be largely vegetative via an extensive rhizome system (DCCEEW, 2022y; Flann, 1998). Given the species' ability to survive on below-ground storage material, and the retention of groundcover and mid-stratum vegetation throughout much of the project footprint, the project is considered unlikely to disrupt the breeding cycle of any potentially important population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 176.22 ha (comprising 5.9% of the total habitat mapped in the project footprint, 187.82 ha including prescribed impacts) of potential and known habitat for the Yass Daisy and 1.50 ha (comprising 8.6% of the total habitat mapped in the project footprint) of potential habitat for the Swamp Everlasting. This mapped suitable habitat and associated records have the potential to constitute an important population, thus the project has the potential to lead to species decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for these species. Areas of known and potential habitat are already affected by weeds where soil disturbance has occurred with some areas also subject to grazing. Proposed measures to mitigate the risk of indirect impacts, such as weed invasion, will be implemented. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. There is low potential for any plant or machinery used in construction to transport pathogens to which these species are susceptible. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

Yass Daisy

The Conservation Advice (DEWHA 2008b) for the species identifies the following strategies to achieve the recovery objectives:

- Habitat Loss, Disturbance and Modification
  - Monitor known populations to identify key threats.
  - Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
  - Identify populations of high conservation priority.
  - Manage threats to areas of vegetation that contain populations/occurrences/remnants of Yass Daisy.
  - Ensure road widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance, especially the Hume Highway duplication, do not adversely impact on known populations.
  - Manage any changes to hydrology that may result in changes to the water table levels, such as improving the drainage of the Daisy Trail in Livingstone National Park so that runoff is diverted (NPWS, 2006).
  - Manage any disruptions to water flows.
  - Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown land and private land investigate inclusion in reserve tenure if possible.
  - Implement regular monitoring to ensure that Yass Daisy populations are not threatened by recreational or park management activities in Livingstone National Park (NPWS, 2006).
  - Implement appropriate mowing or slashing regimes in cemetery sites where the species occurs.
  - Suitably control and manage access on private land.
  - Minimise adverse impacts from land use at known sites.
  - Ensure the development of Conroy's Gap wind farm does not have a significant adverse impact on Yass Daisy populations (DOP, 2007).
  - Protect populations of the listed species through the development of conservation agreements and/or covenants.
- Invasive Weeds
  - Develop and implement a management plan the control of weeds in the local region.
  - Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Yass Daisy.

    - Identify and remove weeds in the local area, in particular species such as Serrated Tussock, Scotch Thistle and St John's Wort, which could become a threat to Yass Daisy, using appropriate methods (Harden Shire Council, 2004).
    - Manage sites to prevent introduction of invasive weeds, which could become a threat to Yass Daisy, using appropriate methods.
- Trampling, Browsing or Grazing
    - Develop and implement a stock management plan for roadside verges and travelling stock routes.
    - Implement management actions for the control and eradication of rabbits outlined in the Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999).
    - Manage known sites on private property to ensure appropriate stock grazing regimes are conducted.
    - Prevent grazing pressure at known sites on leased crown land through exclusion fencing or other barriers.
- Conservation Information
    - Raise awareness of Yass Daisy within the local community, particularly landholders and owners and caretakers of local cemeteries where Yass Daisy occurs.
- Enable Recovery of Additional Sites and/or Populations
    - Undertake appropriate seed collection and storage.
    - Investigate options for linking, enhancing or establishing additional populations.
    - Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.
    - Establish if other populations of Yass Daisy exist in areas in between the southern population near Wagga Wagga and the Yass District populations.

The project may impede or interfere with targeted recovery action objectives associated with: Habitat Loss, Disturbance and Modification.

Swamp Everlasting

The National Recovery Plan (Carter and Walsh 2011) for the species identifies the following recovery objectives:

- acquire information on population abundance and trends for management and conservation
- identify habitat that is critical, common or potential
- ensure that key populations and their habitat are protected and managed appropriately
- identify and manage threats to populations
- identify key biological characteristics
- monitor the growth response and viability of populations to allow adaptive management
- build community support for conservation.

The project is unlikely to impede or interfere with any of targeted recovery objectives for this species.

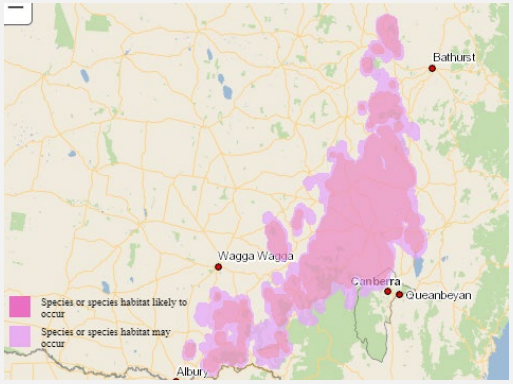
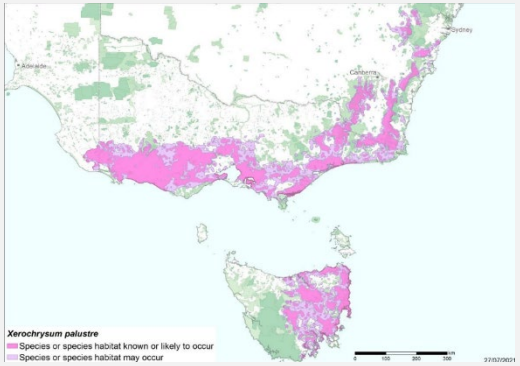
Conclusion

Largely due to the area of known and potential habitat to be impacted, the project is considered likely to have a significant impact on the Yass Daisy.

Whilst the known and potential habitat of Swamp Everlasting proposed to be impacted is relatively small, this habitat is on the edge of the species' predicted range, therefore the project has the potential to cause

a significant impact on the Swamp Everlasting based on the precautionary principle. A summary of the NSW assessment bilateral requirements for these vulnerable daisies are presented in Table A18- 6.

Table A18- 6: NSW assessment bilateral requirements for vulnerable daises

NSW Assessment Bilateral requirements	Yass Daisy	Swamp Everlasting
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for the Yass Daisy, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled habitat distribution provided below.  Current distribution map for Yass Daisy (DCCEEW, 2022q) Relevant Commonwealth guidelines for the Yass Daisy include Approved Conservation Advice (DEWHA 2008b) and the Threat Abatement Plans relevant to the Yass Daisy.	A description of habitat for the Swamp Everlasting, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled habitat distribution provided below.  Current distribution map for Swamp Everlasting (DCCEEW, 2022y) Relevant Commonwealth guidelines for the Swamp Everlasting include a National Recovery Plan (Carter & Walsh 2011) and the approved Conservation Advice (DAWE 2021a).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE 2020b) with a detailed field verification method provided in Section 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under section 4.1 of the BAM, with detailed requirements outlined in section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) guideline for *Surveying threatened plants and their habitats.* Crookwell • 50 surveys in Sep-21	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE, 2020b) with a detailed field verification method provided in Section 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under section 4.1 of the BAM, with detailed requirements outlined in section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) guideline for *Surveying threatened plants and their habitats.* • 19 surveys in Jan-22 • 1 survey in Feb-22

NSW Assessment Bilateral requirements	Yass Daisy	Swamp Everlasting
	Murrumbateman • 138 surveys in Sep-21 • 72 surveys in Oct-21 • 89 surveys in Nov-21 Inland Slopes • 147 surveys in Oct-21 • 47 surveys in Nov-21 Bondo • 5 surveys in Nov-21	• 9 surveys in Mar-22; 32 in Nov-21 • 7.93 km of random meander in Feb-21 (ELA)
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Yass Daisy and Swamp Everlasting: • Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).	
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Yass Daisy is estimated at 176.22 ha (187.82 ha including prescribed impacts) of known and potential habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of the species habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).	The residual impact to the Swamp Everlasting is estimated at 1.50 ha of known and potential habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of the species habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. Under the precautionary principle, the residual

NSW Assessment Bilateral requirements	Yass Daisy	Swamp Everlasting
		impact to this species was considered to have the potential to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirements and obligations for this species as a result of residual impacts due the project is addressed in Section 14 of the BDAR.	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations.	
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.	
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.	

2.2.3 Black Gum (*Eucalyptus aggregata*)

The Black Gum is listed as Vulnerable under the EPBC Act and the BC Act.

Description

Black Gum is a small to medium sized woodland tree that grows 18-20 m tall, although the Victorian Department of Sustainability and Environment (DSE) states it grows to 25 m. The bark on the trunk and main branches is dark grey to black, deeply fibrous or flaky, which does not shed annually. The smaller branches (<8 cm diameter) are covered in smooth white, cream or grey bark which does shed yearly. The adult leaves are slightly curved and round-ended, approximately 5-12 cm long and 1-2 cm wide. They are a glossy dark green, have the same colour on each surface and contain leaf oils with a distinctive, clove-like odour. Juvenile leaves are narrow or oval-shaped, are arranged opposite each other and are a dull green in colour, although they may vary considerably in a single seed lot. The buds, flowers and fruits occur in tight clusters of seven on stalks 3-4 mm long. The buds are egg-shaped, 3-5 mm long and 2-3 mm wide. The flowers are white or cream and are followed by capsules which are cone or cup shaped, 2-4 mm long and 3-5 mm wide.

Black Gum is endemic to south-eastern Australia and is found in the ACT, NSW and in a small isolated sub-population in Victoria. It is likely that these regions were connected in a colder paleoclimate. The species occurs mainly in the wetter, cooler and higher parts of the tablelands, and is found at altitudes of 600–1200 m and in areas with annual rainfall of 600–900 mm, although at least one sub-population is known to occur in an area of higher rainfall (~1800 mm per year). This species is likely to occur within at least one TEC, the Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion, which was listed as endangered in 2011. Indicative distribution mapping from Species Profile and Threats Database (DCCEEW 2022r) has mapped 'species and species habitat likely to occur' and 'species and species habitat may to occur' north and south of Goulburn and as far west of Gunning. As such, the species is considered likely to occur within the project footprint.

Is this part of an important population?

According to the Conservation Advice for Black Gum, the Wingecarribee local government area sub-population has been listed as an endangered population by the NSW Scientific Committee. The larger and more viable stands of Black Gum in NSW are important and include locations at Black Springs, Wallerawang, south of Braidwood near the Shoalhaven River, and the Bendoura Travelling Stock Reserve (Commonwealth of Australia 2015). None of the defined important populations are located within the project footprint, however, the eastern end of the footprint is approximately 1 kilometer west of the Wingecarribee local government border.

No associated habitat has been mapped in Bungonia, however, given Crookwell and Murrumbateman IBRA Subregions occur on the edge of the species predicted habitat distribution, potential habitat within the project footprint may be used by an important population if it occurs.

Specific impacts

Black Gum is considered to have a high likelihood of occurrence within the project footprint in the Crookwell IBRA subregion and a moderate likelihood of occurrence within the Murrumbateman IBRA subregion. The species is also known to occur in the Bungonia and Inland Slopes IBRA subregions, however due to no associated PCTs mapped in the Bungonia portion of the project footprint and limited previous

records in the Inland Slopes, the potential for the species to occur within the project footprint within these Subregions has not been considered further.

Thirty-nine records are known to occur (DPIE 2021) within 20 km of the project footprint in the Goulburn and Yass region. In the remaining associated subregions there is:

- 40.73 ha of potential habitat (comprising PCTs 679, 1191 and 1256) in Crookwell, of which 1.10 ha would be impacted by the project (3%).
- 9.2 ha of potential habitat (comprising PCT 1256) in Murrumbateman, of which 0 ha would be impacted by the project (0%)
- In Inland Slopes 0.15 ha would be impacted by the project.

In total there is 49.93 ha of potential habitat mapped within the project footprint, of which 1.25 ha would be removed as a result of the project (2.5%). Further, there is an additional 0.13 ha of impacts on non-native habitats for Black Gum (prescribed impacts). Therefore, the total impact to black Gum habitat, including prescribed impacts, is 1.38 ha.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Black Gum (TSSC 2015a), in effect under the EPBC Act from 17 November 2015.
- The SPRAT database indicates that there is no Recovery Plan for the Black Gum.
- The SPRAT database indicates that the species is not referred to in any Threat Abatement Plans.

There are no Relevant Commonwealth survey guidelines for this species.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

As mentioned above the project footprint is near the extent of the known range of Black Gum, and as such any individuals present could form part of an important population of the species.

Given the conspicuous nature of the species, it is considered highly likely that it would have been detected during targeted surveys. Given the project would only impact a relatively small proportion (2.54%) of the potential habitat within the project footprint, it is considered unlikely that the project would lead to a long-term decrease in the size of a potentially important population should it occur.

Reduce the area of occupancy of an important population

The conservation advice for Black Gum has estimated the area of occupancy for Black Gum to be 808 km^2 in NSW. The project would directly impact potential habitat for the species through clearing about 2.5% of potential habitat available within the project footprint. The project also has the potential to result in indirect impacts to habitats (such as edge effect and weed invasion). Given no individuals are known to

occur, and the relatively small proportion of potential habitat to be impacted, the project is considered unlikely to reduce the area of occupancy of the species.

Fragment an existing important population into two or more populations

While no individuals of Black Gum have been recorded within the project footprint, the species is still considered a moderate likelihood of occurrence and if present, may form part of an important population. Potential habitat for this species, PCTs 679, 1191 and 1256, is present in both continuous and fragmented states within the project footprint. The indicative disturbance area is patchily distributed within the footprint, with few areas of continuous clearing most likely to fragment an important population. Where the indicative disturbance area does intersect habitat across the footprint, it is mostly along the edge of habitat patches adjacent to previously cleared areas, removing less than a hectare from each patch and minimally affecting connectivity. This impact is also unlikely to impact pollination and dispersal of genetic material by wind or flying pollinators.

The project will directly impact potential habitat for the species and although the project has the potential to result in indirect impacts to the habitats, these would be localised. Given that the 1.25ha to be impacted by the project (1.38 ha including prescribed impacts) comprises about 11% of the habitat mapped within the project footprint, the project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

There is no Critical Habitat in NSW defined under section 207A of the EPBC Act that has been identified or included in the Register of Critical Habitat for the species. However, due to the species association with at least one EPBC-listed TEC, this habitat will have high conservation value that benefits the species (TSSC 2015a).

Given Black Gum is not known to occur within the project footprint, the habitat to be impacted is considered unlikely to be critical to the survival of the species.

Disrupt the breeding cycle of an important population

The project would remove up to 1.25 ha of potential habitat (1.38 ha including prescribed impacts) that has the potential to support an important population (about 2.5% of the potential habitat present within the project footprint). If it is assumed that all of the potential habitat may support an important population, then the project has the potential to impact on the breeding cycle of the population through removal of potential habitat for about 2.5% of the population.

Black Gum flowers from November through to May (Benson and McDougall, 1998) and pollination is likely to occur by a range of insects, birds and mammals. Seed is dispersed locally by wind, water and gravity and there is no dormancy phase. Given this, the project is unlikely to limit pollinator activity and the method of seed dispersion for Black Gums. Therefore, due to the relatively small area of impact, and the species method of reproduction, the project is considered unlikely to disrupt the breeding cycle of an important population of Black Gum, should it occur.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 1.25 ha (2.5% of the total habitat mapped in the project footprint) of potential habitat. While the species was not recorded, the removal of 1.25 ha of potential habitat (1.38 ha including prescribed impacts) that may support an important population, thus the project has the potential to lead to species decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is considered unlikely to result in the introduction of invasive species that may become established in habitat for the species. The area of potential habitat is already affected by weeds where soil disturbance has occurred with some areas also subject to grazing. Proposed measures to mitigate the risk of indirect impacts, such as weed invasion, will be implemented. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

There is low potential for any plant or machinery used in construction to transport pathogens, such as *Phytophthora cinnamomi* (Cinnamon Fungus) and *Puccinia psidii* (Myrtle Rust) to which Black Gum are susceptible.

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

The Conservation Advice (TSSC 2015a) for the species identifies the following strategies to achieve the recovery objectives:

- Avoid the use of fertilisers in or around stands of Black Gum where weeds may flourish.
- Advise landholders of presence and encourage and support appropriate conservation practices.
- Manage sites to identify, control and reduce the spread of invasive weeds.
- If maintenance activities occur in the area (eg roadside maintenance, mowing, spraying, slashing etc.), ensure landowners/managers use an appropriate management regime that does not detrimentally affect this species and will allow regeneration from seedlings.
- Manage the population to maintain genetic diversity.
- Implement an appropriate fire management regime for protecting key habitat.
- If livestock grazing occurs in the area, ensure landowners/managers use an appropriate management regime and density that does not detrimentally affect this species, will allow regeneration from seedlings and manage total grazing pressure at important sites through exclusion fencing or other barriers.
- In collaboration with the Australian Seed Bank Partnership, use known protocols to establish ex-situ seed collections that capture genetic representation of the remaining populations as an insurance policy, to aid in re-establishing populations if needed in the future and to bolster stands where regeneration is not occurring.
- Undertake translocations using the Australian Network for Plant Conservation (ANPC) guidelines to augment small stands identified as being at significant risk from hybridisation.
- Consider the removal of hybrids in the context of maintaining evolutionary potential and reducing risk of species loss through hybridisation.

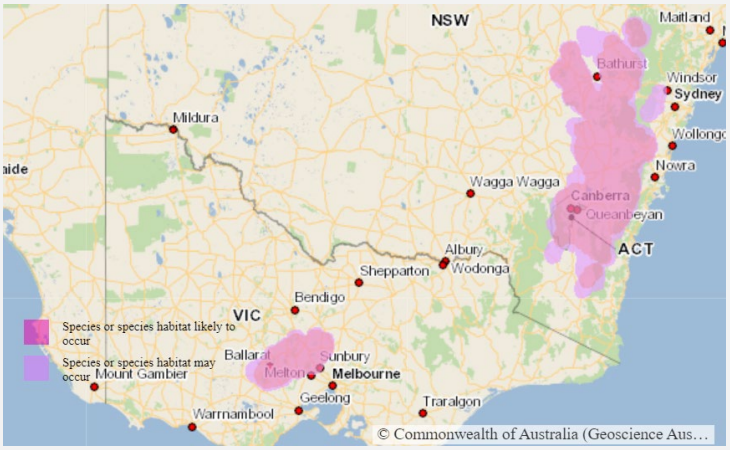
- Work with local groups to ensure the ANPC guidelines are followed when undertaking revegetation work using Black Gum.
- Implement appropriate vehicle and footwear hygiene protocols where possible to avoid the spread of Phytophthora and Myrtle Rust.

The project would not impede or interfere with any of the targeted recovery actions for this species.

Conclusion

In line with the above findings, the project is considered unlikely to have a significant impact on the Black Gum. A summary of the NSW assessment bilateral requirements for Black Gum is presented in Table A18-7.

Table A18- 7: NSW assessment bilateral requirements for Black Gum

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled habitat distribution provided below.  Current distribution map for Black Gum habitat (DCCEEW 2022r)
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE, 2020b) with a detailed field verification method provided in Section 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under section 4.1 of the BAM, with detailed requirements outlined in section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) Guideline for Surveying threatened plants and their habitats. Crookwell • 26 surveys in Jan-22 • 86 surveys in Feb-22 • 7 surveys in Mar-22 • 5 surveys in May-22 • 50 surveys in Sep-21 • 32 surveys in Oct-21 Murrumbateman • 30 surveys in Feb-22 • 3 surveys in Mar-22 • 3 surveys in May-22 • 138 surveys in Sep-21

NSW Assessment Bilateral requirements	
	• 72 surveys in Oct-21 • 89 surveys in Nov-21 • 150 surveys in Dec-21
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Black Gum: • Project design refinement to potentially avoid impacts to the species wherever possible. • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations. • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Black Gum is estimated at 1.25 ha (1.38 ha including prescribed impacts) of habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of Black Gum habitat within or adjacent to the project footprint, however, it is expected that these impacts will be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered unlikely to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Not required. As per the SIA, residual impacts to this species were considered unlikely to be significant. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR. Impacts to Black Gum would be offset under the NSW BOS.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • the purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register • establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project

NSW Assessment Bilateral requirements	
descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	• through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. As detailed above, all residual impacts to the species would be offset under the NSW BOS and, as per the SIA, significant residual impacts to this species are considered unlikely. Therefore, application of the EPBC Act Environmental Offset Policy is not required.

2.2.4 Cambage Kunzea (*Kunzea cambagei*)

The Cambage Kunzea is listed as Vulnerable under the BC Act and the EPBC Act.

Description

From the Myrtaceae family, *Kunzea cambagei*, commonly referred to as Cambage Kunzea, is a prostrate shrub at 0.6 m high. Leaves are sweetly-scented, 3–8 mm long and 3 mm wide, with a rounded tip. Flowers are cream to yellow coloured and are grouped in clusters at the ends of branches. Fruits are a hairy capsule 3 mm long (DEWHA 2008c).

Cambage Kunzea occurs in the western and southern parts of the Blue Mountains, NSW, with four main populations with 20–150 individuals. Populations are located west of Berrima, along the Wingecarribee River; Loombah Plateau east of Mount Werong; the Oberon–Colong Stock Route within Kanangra–Boyd National Park (NP); and Wangaderry Plateau within the Nattai NP (DEWHA 2008c). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022w) indicates that the portion of the project north-east of Goulburn is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

The habitat required by Cambage Kunzea includes wet heath and woodland on coarse sandy soil on sandstone and quartzite. This species is associated with the following EPBC Act-listed TECs (TEC; DEWHA 2008c):

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
- Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory
- Temperate Highland Peat Swamps on Sandstone.

Is this part of an important population?

No important populations have been defined for Cambage Kunzea. However, potential habitat for Cambage Kunzea within the project footprint is located within the south-western extent of the species range, in areas where it is predicted the species habitat is likely to, or may occur, according to the species SPRAT profile. Therefore, any individuals present within the project footprint are likely to occur on the edge of the species range and be considered part of an important population due to their location at the extent of the species range.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Cambage Kunzea (DEWHA 2008c), in effect under the EPBC Act from 3 July 2008.
- The SPRAT database indicates that there is no Recovery Plan for the Cambage Kunzea.
- There are no relevant Commonwealth survey guidelines for this species.

Specific impacts

Cambage Kunzea is considered to have moderate likelihood of occurrence within the project footprint in the Bungonia IBRA subregion due to the presence of suitable habitat and five previous records within 20 km of the project footprint (DPIE 2021). In the project footprint there is 71.18 ha of potential habitat (comprising PCT 1150) mapped, of which, 12.20 ha (17%) would be cleared as a result of the project. Further, there is an additional 0.14 ha of impacts on non-native habitats for Cambage Kunzea (prescribed impacts). Therefore, the total impact to Cambage Kunzea habitat, including prescribed impacts, is 12.34 ha. General flora and vegetation surveys conducted did not detect presence of this species. Given the relatively conspicuous nature of the species, it is considered likely that it would have been detected if present. However, given that targeted surveys were not conducted within the required season, its presence could not be ruled out and it has been included on a precautionary basis.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

As stated above, the potential habitat within the project footprint is on the edge of Cambage Kunzea's predicted distribution. Therefore, any individuals within the project footprint would likely comprise an important population.

Within the project footprint there is 71.18 ha of potential habitat mapped (comprising PCT 1150), of which, 12.2 ha (17%) would be cleared as a result of the project. Given the relatively large area of impact, the project is considered to have the potential to lead to a long-term decrease in the species or a population of the species, should it occur.

Reduce the area of occupancy of an important population

There is no defined area of occupancy for this species. The extent of impact within the project footprint on the species is 12.20 ha (12.34 ha including prescribed impacts) (17% of the total mapped potential habitat). The project would directly impact potential habitat and has the potential to result in indirect impacts to habitat (such as edge effects and weed invasion).

Of the potential habitat within the project footprint, it is unlikely that the species would be restricted to the area being directly impacted, and thus its area of occupancy may include all potential habitat within the project footprint. However, based on the removal of over 12.2 ha of potential habitat, should the species occur, the project could reduce the area of occupancy of the species.

Fragment an existing important population into two or more populations

The project would include construction of transmission line structures, access tracks, substations and construction compounds. Whilst total clearance has been assumed within Total Clearance Zone (TCZ), the groundcover would not be removed in the ECZ and HTZ.

As mentioned above, given surveys were not conducted within the required season, its presence could not be ruled out and it has been assumed present in all areas of potential habitat based on the precautionary principle.

Potential habitat is mapped according to the extent of woody PCT 1150, where the species is assumed to have a moderate likelihood of occurrence. This PCT occurs in two distinct patches within the Bungonia subregion. While the indicative disturbance area is patchily distributed within most of the footprint, the TCZ within the indicative disturbance area that bisects the potential Cambage Kunzea habitat is continuous and requires full clearance to ground layer across the majority of the patch. The proposed indicative disturbance area is also placed centrally in the middle of the patch of potential habitat, physically separating the patch into two sections.

As the species is likely to be pollinated by flying insects, and its seeds dispersed by wind, permanent structures, such as access tracks and transmission line structures, are unlikely to completely prevent pollination and gene flow between individuals post construction. However, as fire appears to play a role in seed germination, any disparity in fire or land management regimes between the separated populations may result in changes to fecundity and possibly result in two distinct populations.

The project would directly impact 12.20 ha of potential habitat (12.34 ha including prescribed impacts), which constitutes 17% of the total 71.18 ha mapped in the project footprint. Given the relatively large area of impact and the placement of the indicative TCZ in the middle of potential habitat (which has the potential to physically bisect the patch), if the species is present in the area, the project is considered to have the potential to fragment any existing important population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species or identified in the Conservation Advice for the species.

The project would not impact on known habitat or habitat that supports any of the extant four populations of the species. The species has a moderate likelihood of occurrence within all areas of potential habitat within the project footprint, therefore the removal of 17% of identified potential habitat is considered unlikely to affect habitat critical to the survival of the species.

Disrupt the breeding cycle of an important population

The project would result in the removal of 12.20 ha (12.34 ha including prescribed impacts) of potential habitat for the species. The proposed vegetation removal is unlikely to significantly disrupt the breeding cycle in the long-term, given the species is likely to be pollinated by mobile insects and its seeds dispersed by wind.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 12.20 ha of potential habitat (12.34 ha including prescribed impacts), which comprises 17% of the total (71.18 ha) habitat mapped in the project footprint. Indirect impacts (such as edge effect and weed incursion), as mentioned above, also have the potential to negatively impact species habitat, however implementation of proposed mitigation measures would mitigate the risk of indirect impacts. Given the relatively large area of impact, should the species occur, the project has the potential to decrease habitat to an extent that may lead to a decline in the species.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species. The area of potential habitat is already affected by weeds where soil disturbance has occurred and land has been subject to grazing. Several mitigation measures have also been proposed to further mitigate the risk of indirect impacts. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

There is a low potential for any plant or machinery used in construction to transport pathogens, to which Cambage Kunzea may be susceptible.

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

The Conservation Advice (DEWHA 2008c) for the species identifies the following strategies to achieve the recovery objectives:

- Habitat Loss, Disturbance and Modification
  - Identify populations of high conservation priority.
  - Negotiate with Department of Lands and relevant landowners in the Berrima area to prepare management statements to manage threats to areas of vegetation that contain populations/occurrences/remnants of *Kunzea cambagei.*
  - Ensure road widening and maintenance activities (or other infrastructure or development activities as appropriate) in areas where *Kunzea cambagei* occurs do not adversely impact on known populations and that personnel are able to identify this species and its habitat (DECC, 2005b).
  - Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on *Kunzea cambegei.*
  - Control access routes to suitably constrain public access to known sites in public land.
  - Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure, especially sites in the Berrima area on private land and Crown lands.
- Fire
  - Develop and implement a suitable fire management strategy for *Kunzea cambagei*, timing any prescribed burn to after seed has been released (autumn to winter) (NSW NPWS, 2000a).
  - Identify appropriate intensity and interval of fire to promote seed germination and vegetation regeneration.

- Provide maps of known occurrences to local and state rural fire services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

- Conservation Information
  - Raise awareness of *Kunzea cambagei* within the local community, particularly among landowners.
- Enable Recovery of Additional Sites and/or Populations
  - Undertake appropriate seed collection and storage.
  - Investigate options for linking, enhancing or establishing additional populations.
  - Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

The project would not impede or interfere with any of targeted recovery actions for this species.

Conclusion

The project is considered to have the potential to have a significant impact on Cambage Kunzea due to the removal of 12.20 ha (12.34 ha including prescribed impacts) of potentially suitable habitat where it is considered to have a moderate likelihood of occurrence based on the precautionary principle. A summary of the NSW assessment bilateral requirements for Cambage Kunzea is presented in Table A18- 8.

Table A18- 8: NSW assessment bilateral requirements for Cambage Kunzea

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for Cambage Kunzea, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled habitat distribution provided below. Current habitat distribution map for Cambage Kunzea (DEECCW, 2022w) 'Approved Conservation Advice for Kunzea cambagei' (DEECCW 2008) is the key conservation advice for this species.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published	Due to the species' limited survey period (October to November), no targeted surveys were conducted for this species.

NSW Assessment Bilateral requirements	
Australian Government guidelines and policy statements	
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Cambage Kunzea: • Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Cambage Kunzea is estimated at 12.2 ha (12.34 ha including prescribed impacts) of potential habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of the species habitat within or adjacent to the project footprint, however, it is expected that these impacts will be largely mitigated and managed through implementation of the measures noted above. The residual impact to this species was considered to have the potential to be significant as per the SIA (Attachment 18).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Not required. As per the SIA, residual impacts to this species were considered unlikely to be significant. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR. Impacts to Cambage Kunzea will be offset under the NSW BOS.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register.

NSW Assessment Bilateral requirements	
with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	• Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. As detailed above, all residual impacts to the species would be offset under the NSW BOS and, as per the SIA, significant residual impacts to this species are considered unlikely. Therefore, application of the EPBC Act Environmental Offset Policy is not required.

2.2.5 Hoary Sunray (*Leucochrysum albicans* var. *Tricolor*)

Hoary Sunray is listed as Endangered under the EPBC Act.

Description

Hoary Sunray is a perennial everlasting daisy belonging to the family Asteraceae. Stems are 10– 15 cm tall, and have narrow leaves 2–10 cm long, covered in white cottony hairs. The yellowish flower heads are 2-5 cm in diameter and surrounded by numerous white overlapping ovate oblong bracts, with the outer layer often tinged purple or brown. The fruits are brown, ovoid, 2– 3 mm long, with 14–20 pappus bristles. The flowering period for Hoary Sunray is November–December in Victoria (Vic), October–January (earlier at lower elevations and later at higher elevation sites) in Tasmania (Tas) and probably October– December in New South Wales (NSW) and the Australian Capital Territory (ACT). Surveys should be undertaken during its flowering period, when the taxon is most conspicuous, as non-flowering plants can be difficult to locate in grassy habitat.

Hoary Sunray is endemic to south-eastern Australia, where it occurs in three geographically separate areas.

The majority of Hoary Sunray subpopulations are in NSW and the ACT where the taxon is still locally common although some roadside subpopulations may be declining. The species currently occurs on the Southern Tablelands roughly from Bombala to Goulburn, with several records from further north near Mudgee. The species once occurred more widely in NSW, with records from near Tarcutta, Bega Valley, Moss Vale and Delegate. Large subpopulations of a *Leucochrysum* from subalpine parts of Kosciuszko National Park (eg Happy Jacks Plain) are referring to *Leucochrysum alpinum* (Alpine Sunray) and not Hoary Sunray.

In Tasmania, Hoary Sunray is scattered across the midlands, particularly around Ross, Tunbridge and Campbelltown. It also occurs in the north near Stanley and in several locations in the Great Western Tiers. Current distribution includes the Tasmanian Southeast, Tasmanian Northern Midlands, Tasmanian Central Highlands and King IBRA bioregion (DEH, 2000). It once occurred in southern Tasmania, between Buckland and Oatlands, on the north coast near Wynyard, in some areas of western Tasmania (GTSpot, Tasmania Parks and Wildlife Service GIS Webserver) and may once have occurred on the west coast. The taxon is now absent from the Tasmanian Northern Slopes bioregion.

In Victoria, Hoary Sunray occurs in the south-west, between Colac, Inverleigh, Ballarat, Ararat and Hamilton, in the Victorian Volcanic Plain bioregion. It was once more widespread in the region, with records from Port Fairy, Macarthur, Creswick and Mt Cole.

Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022s) indicates that the portion of the project from west of Yass to east of Goulburn is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

Specific impacts

Hoary Sunray has been recorded in the project footprint. A total of 119,311 individuals were recorded in PCT 1330 in the Crookwell IBRA-subregion, and 8,792 individuals were recorded in PCT 727 in the Murrumbateman IBRA subregion. The species was recorded in grasslands, in areas with existing or past disturbance, or on the edges of the existing easement. With reference to associated PCTs present within the project footprint, the known and potential habitat comprises of following:

- 184.49 ha of potential habitat (comprising PCTs 1093, 1097 and 1330) in Bungonia, of which 11.38 ha would be impacted by the project (6%).
- 648.77 ha of potential habitat (comprising PCTs 679, 727, 731, 952, 1093, 1191 and 1330) in Crookwell, of which 31.81 ha would be impacted by the project (5%)
- 906.95 ha of potential habitat (comprising PCTs 349, 351, 352, 731, 1093 and 1330) in Murrumbateman, of which 32.44 ha would be impacted by the project (4%)
- 518.14 ha of potential habitat (comprising PCTs 268, 352, 731, 1191 and 1330) in Inland Slopes, of which 12.17 ha would be impacted by the project (2%)
- 172.57 ha of potential habitat (comprising PCT 953) in Bondo, of which 30.82 ha would be impacted by the project (18%)
- 343.47 ha of potential habitat (comprising PCTs 679, 953 and 1196) in Snowy Mountains, of which 64.02 ha would be impacted by the project (19%).

In total there is 2,774.39 ha of potential and known habitat for the Hoary Sunray, of which, 182.63 ha would be impacted by the project (6.5%). Further, there is an additional 17.60 ha of impacts on non-native habitats for Hoary Sunray (prescribed impacts). Therefore, the total impact to Hoary habitat, including prescribed impacts, is 200.23 ha.

Populations recorded within the project footprint were large and could be necessary for maintaining genetic diversity or dispersal across the region. As such, any individuals or population of this species recorded within the project footprint are considered to form part of an important population.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Hoary Sunray (DAWE 2021b), in effect under the EPBC Act from 20 December 2021.
- Recovery Plan for the Hoary Sunray (Sinclair, 2010), in effect under the EPBC Act from 10 February 2012.
- The SPRAT database indicates that the species is not referred to in any Threat Abatement Plans.

There are no relevant Commonwealth survey guidelines for this species.

Significant impact criteria

An action is likely to have a significant impact on an Endangered or Critically Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The species has been verified as known in the project footprint and is considered to have the potential to occur in all areas of suitable habitat based on indicative mapping and habitat assessments. The species was recorded in the Crookwell IBRA-subregion in PCT 1330 and in the Murrumbateman IBRA subregion in PCT 727. The species was mainly recorded in grasslands, in areas with existing or past disturbance, or on the edges of the existing easement.

The project is considered to have the potential to lead to a long-term decrease in the species or a population of the species. This is taking into consideration that there would be direct impacts to the mapped known and indicative habitat of the species and its presence within the project footprint. Avoidance and mitigation measures have been incorporated into the project. Further detailed recommendations as to specific mitigation measures to prevent impacts to potential habitats for the species have been included in this report.

Reduce the area of occupancy of the species

The conservation advice for this species has the area of occupancy as less than 2,000 km^2. The project would impact on 182.63 ha of known and potential habitat (200.23 ha including prescribed impacts), equating to 6.5% of the habitat mapped within the project footprint. This includes mapped populations of the species. Of the potential habitat within the project footprint, it is unlikely that the species is restricted to the area being directly impacted, and thus its area of occupancy may be greater than the mapped populations. However, based on the removal of over 300 ha of potential habitat and impacts to populations within the project footprint, the project may reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

The project would include construction of transmission line structures, access tracks, substations and construction compounds. Whilst it is assumed all vegetation will be removed but would maintain groundcover and vegetation up to a certain height within the TCZ. Groundcover would not be removed in the ECZ and HTZ.

Potential habitat for this species is present in both continuous and fragmented states within the project footprint. In total there is 2,774.39 ha of potential and known habitat for the Hoary Sunray, of which, 182.63 ha (200.23 ha including prescribed impacts) would be impacted by the project (6.5%). The indicative disturbance area is patchily distributed within the footprint, with few areas of continuous clearing that are most likely to fragment an important population. Where the indicative disturbance area does intersect with potential habitat for this species, it is most commonly along the edge of habitat patches adjacent to previously cleared areas, with continuous TCZ impact areas of less than a hectare. While populations of Hoary Sunray may be more commonly found along edges, potential habitat was widespread throughout the footprint. Where the species was found in the footprint, it was locally abundant within both cleared and forested areas. This species is an obligate out-breeder and thought to be pollinated by bees and other flying insects, with a seed that is thought to be able disperse over many kilometres. This suggests that the construction of transmission line structures and access tracks would not prevent genetic flow and seed dispersal between populations. Some level of disturbance appears to be required for successful germination of the species. Ensuring any temporary ground storey clearing required is undertaken outside

of flowering times will prevent disruption to the breeding cycle and may even increase the population size. Mitigation and avoidance strategies, such as pre-clearance surveys and micro siting of transmission line structures would ensure that impact on important populations for both species is minimised during construction.

Considering the above information, the project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

There is no Critical Habitat defined under section 207A of the EPBC Act that has been identified or included in the Register of Critical Habitat for the species.

The current Conservation advice (DAWE 2021b) describes Hoary Sunray critical habitat in NSW as two EPBC Act-listed TECs: Natural Temperate Grassland of the South-eastern Highlands and White Box–Yellow Box–Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands. These are not officially listed as 'Critical Habitat' for the species; however, their protection will serve as a direct benefit to the species.

The project would result in the removal of 182.63 ha (200.23 ha including prescribed impacts) of potential and known habitat. Indirect impacts such as edge effects, weed incursion weed spraying along roadsides, road widening and habitat degradation, also have the potential to negatively impact species habitat, however implementation of the proposed mitigation measures will mitigate the risk of indirect impacts.

Populations recorded within the project footprint were large and could be necessary for maintaining genetic diversity or dispersal across the region. The removal of over 300 ha of known and potential habitat is considered to have the potential to adversely affect habitat that may be critical to the survival of the species.

Disrupt the breeding cycle of a population

The Hoary Sunray is pollinated by many different insects, including bees and flies (Berechree 2003). It is thought that the seed can disperse over many kilometres, would germinate fairly rapidly under a wide range of conditions, and can remain viable in the soil for at least a few months, although probably not for long periods (Gilfedder & Kirkpatrick 1994c, 1994d, 1994e).

Given this the removal of 182.63 ha (200.23 ha including prescribed impacts), which comprises 6.5% of all known and potential habitat within the project footprint, is unlikely to significantly disrupt the breeding cycle of any populations within the project footprint.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 182.63 ha (200.23 ha including prescribed impacts) of potential and known habitat for the Hoary Sunray, this comprises 6.5% of all known and potential habitat within the project footprint. This mapped habitat and the associated records are likely to support an important population and potentially habitat critical to the survival of the species, thus the project has the potential to lead to species decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species. Within the project footprint the species was recorded in grasslands, in areas with existing or past disturbance, or on the edges of the existing easement. The area of potential habitat is already affected by weeds where soil disturbance has occurred and some areas that have been subject to grazing. Mitigation measures have been proposed to mitigate the risk of indirect impacts. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

There is a low potential for any plant or machinery used in construction to transport pathogens, to which Hoary Sunray are susceptible.

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

Conservation Advice (DAWE 2021b) for the species identifies the following strategies to achieve recovery objectives:

- Primary conservation outcome
  - No important populations are damaged, destroyed, or decline
- Inappropriate fire regimes
  - Continue appropriate burning of grassland subpopulations of Hoary Sunray in late summer to mid-autumn. In Victoria, cessation of such management will likely result in the decline or local extinction of Hoary Sunray. Country Fire Authority brigades in Western Victoria should be encouraged and supported to implement frequent burning of roadside grassland sites containing Hoary Sunray subpopulations. Recommended frequency of fire is typically 2–5 years in Kangaroo Grass-dominated grasslands (McDougall 1989).
  - If burning is unfeasible, explore options for slashing (noting that high biomass may necessitate the removal of slash) or temporary grazing over the summer and early autumn periods.
- Habitat loss, disturbance and modifications
  - Explore options to purchase areas of key populations and incorporate into the conservation reserve system.
  - Ensure all subpopulations of Hoary Sunray are recorded in relevant databases used by decision makers and land managers so that subpopulations are not destroyed or damaged unknowingly, eg during road maintenance work.
  - Ensure contractors undertaking road maintenance activities are aware of the significance and location of Hoary Sunray subpopulations.
  - Explore options for signage or permanent markers around roadside subpopulations to reduce the risk of accidental destruction.
  - Engage with private landowners with subpopulations of Hoary Sunray on their properties and explore options to covenant or protect unsecured subpopulations on private land.
- Invasive species
  - Where weeds are in strong competition with Hoary Sunray, organise control of high threat weeds in significant subpopulations, if possible, to coincide with burning (ie post-fire).
  - Burning programs should include planned and funded post-fire weed control.
- Genetic threats resulting from small and fragmented subpopulations

- Collect and maintain ex situ seed and living collections (to ensure a supply of fresh seed is maintained as viability is likely to decline rapidly) from across the subspecies range at Botanic Gardens or appropriate institutions to manage the risk of losing genetic diversity. Ensure collections are large, monitored for viability and cover a broad spread of subpopulations within each State, particularly declining subpopulations, to ensure genetic diversity is captured. Refer to the Plant Germplasm Conservation Guidelines (Martyn Yenson et al. 2021).
- Investigate the potential for conservation translocations to create new subpopulations of Hoary Sunray in Tasmania and Victoria. Translocated subpopulations could include genetic mixing, although careful consideration should be given to risks associated with gene pool mixing as demonstrated in other Asteraceae (eg, ploidy differences between subpopulations). Any conservation translocations should be undertaken in accordance with the Guidelines for the Translocation of Threatened Plants in Australia (Commander et al. 2018) and monitored to maturity and seed set to ensure new subpopulations contribute to a decrease in the threatened status of Hoary Sunray.
- Monitor gene flow among declining subpopulations, particularly where there are no obvious physical threats driving the decline. Exchange of self-incompatibility alleles (S alleles) is important for population viability in this self-incompatible species, and such knowledge could inform genetic rescue attempts for affected subpopulations (Young and Pickup 2010; Thrall et al. 2014).
- Restore habitat following the National Restoration Standards (Standards Reference Group SERA 2021).

- Climate Change
  - Identify and protect current and future habitat likely to remain or become suitable for Hoary Sunray under future climate conditions.
  - Undertake a review of monitoring data to determine the role of drought in population decline of Hoary Sunray.
- Herbivory
  - Continue grazing regimes where they have been shown to be effective at managing Hoary Sunray. If there is evidence of a decline in Hoary Sunray in a grazed subpopulation, the role of grazing should be carefully considered, and other options for biomass reduction (eg fire) could be investigated to determine if grazing is a factor in the decline.
  - Undertake herbivore control where necessary.

The project may impede or interfere with targeted recovery action objectives associated with: Habitat Loss, Disturbance and Modification.

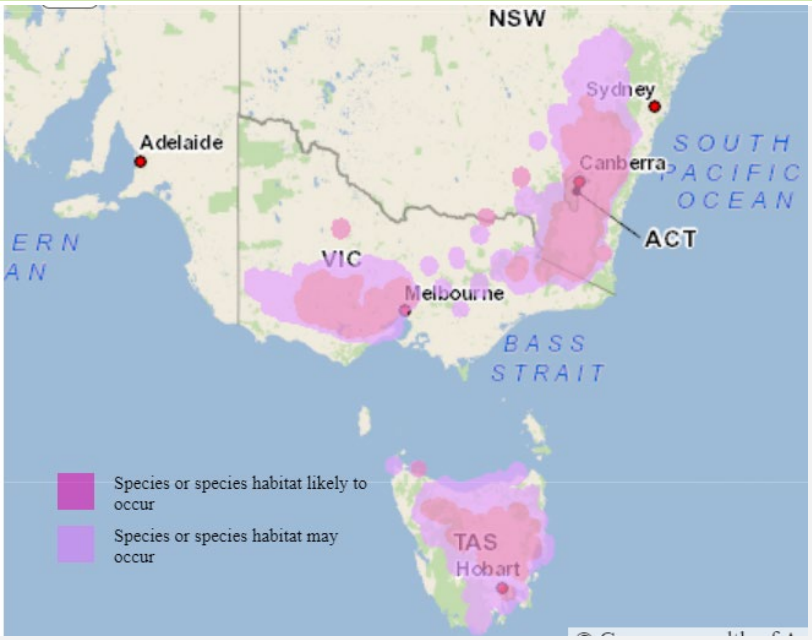
Conclusion

Based on the removal of a relatively large area of known and potential habitat, that likely supports what is likely an important population and habitat that may be critical to the species survival, the project is considered likely to have a significant impact on the Hoary Sunray.

A summary of the NSW assessment bilateral requirements for Hoary Sunray is presented in Table A18- 9.

Table A18- 9: NSW assessment bilateral requirements for Hoary Sunray

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging	A description of habitat for the Hoary Sunray important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled habitat distribution provided below.

NSW Assessment Bilateral requirements	
habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for the Hoary Sunray (DCCEEW, 2022s) The commonwealth guidelines for this species include the 'National Recovery Plan for the Hoary Sunray *Leucochrysum albicans var. tricolor*' and the 'Conservation Advice for *Leucochrysum albicans subsp. Tricolor* (Hoary Sunray)'.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE, 2020b) with a detailed field verification method provided in Section 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under section 4.1 of the BAM, with detailed requirements outlined in Section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) Guideline for Surveying threatened plants and their habitats. Bungonia • 10 surveys in Jan-22 • 24 surveys in Feb-22 • 1 survey in May-22 • 51 surveys in Sep-21 • 9 surveys in Oct-21 Crookwell • 26 surveys in Jan-22 • 86 surveys in Feb-22 • 7 surveys in Mar-22 • 5 surveys in May-22 • 50 surveys in Sep-21 • 32 surveys in Oct-21 Murrumbateman • 30 surveys in Feb-22 • 3 surveys in Mar-22 • 3 surveys in May-22 • 138 surveys in Sep-21 • 72 surveys in Oct-21 • 89 surveys in Nov-21

NSW Assessment Bilateral requirements	
	• 150 surveys in Dec-21 Inland Slopes • 7 surveys in Jan-22 • 4 surveys in Feb-22 • 41 surveys in Mar-22 • 11 surveys in May-22 • 69 surveys in Sept • 147 surveys in Oct-21 • 47 surveys in Nov-21 • 14 surveys in Dec-21 Bondo • 5 surveys in Nov-21 Snowy Mountains • 19 surveys in Jan-22 • 1 survey in Feb-22 • 9 surveys in Mar-22 • 32 surveys in Nov-21 • 10.08 km of random meander in Feb-21 (ELA)
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Hoary Sunray: • Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Hoary Sunray is estimated at 182.63 ha (200.23 ha including prescribed impacts) of known and potential habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of the species habitat within or adjacent to the project footprint, however, it is expected that these impacts will be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR.

NSW Assessment Bilateral requirements	
and how these offsets will be established	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.2.6 Cotoneaster Pomaderris (*Pomaderris cotoneaster*)

Cotoneaster Pomaderris is listed as Endangered under the BC Act and the EPBC Act.

Description

From the *Rhamnaceae* family, *Pomaderris cotoneaster*, commonly referred to as Cotoneaster Pomaderris, is an erect shrub at 4 m high. Leaves are broad-ovate to broad-obovate, 20-50 mm long, 15-30 mm wide (DAWE, 2021c). The upper surface of the leaf is generally bristly, with hairs scattered to very sparse; at least some hairs are stellate (DCCEEW, 2022x). Flowers are cream, externally whitish with stellate and sparse simple hairs, pedicels are 1.5–2.5 mm long, hypanthium 0.5–1 mm long, sepals are 1.6–2 mm long, deciduous, petals and disc are absent, the ovary is virtually inferior with a villous summit and a style branched in the lower half (DAWE, 2021c).

The distribution of Cotoneaster Pomaderris is split across south-eastern Australia, from Lue, near Mudgee, north-west of Sydney, to far eastern Victoria. In total, 19 subpopulations have been recorded. The total number of plants known to exist in the wild is at least 3,200, although accurate population counts have not been made for all known subpopulations (DAWE, 2021c). The species has been recorded from private land, roadsides and conservation reserves (Southeast Forests National Park, Morton National Park, Kosciuszko National Park, Bungonia National Park, Bungonia State Conservation Area, Coopracambra National Park, Cambewarra Range Nature Reserve and Kanangra Boyd National Park; DAWE, 2021c). Indicative

distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022x) indicates that the portion of the project around the Tumut and Goulburn area is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may occur'. As such, the species is considered to have a moderate likelihood of occurrence within the project footprint.

The habitat required by Cotoneaster Pomaderris includes a very broad mix of vegetation communities, from tall open eucalypt forest to dry open eucalypt woodland, sometimes (but not always) in sites physically protected from fire, such as along rivers, gorges or escarpments (DAWE, 2021c).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for Cotoneaster Pomaderris (DAWE, 2021c), in effect under the EPBC Act from 23 November 2021.
- Recovery Plan for Cotoneaster Pomaderris (DECCW, 2009b), in effect under the EPBC Act from 13 August 2010.
- There are no relevant Commonwealth survey guidelines for this species.

Specific impacts

Cotoneaster Pomaderris has a moderate likelihood of occurrence based on the presence of suitable habitat in the associated PCT 1150. Flora and vegetation surveys conducted did not detect the presence of this species. Given the relatively conspicuous nature of the species, it is considered likely that it would have been detected if present. However, given targeted surveys were not conducted within the required season, its presence could not be ruled out and it has been assumed to have the potential to occur in all areas of potential habitat. There is 64.32 ha of potential habitat in Bungonia, of which 11.70 ha would be impacted by the project (18%). Additionally, there are 141 records (DPIE, 2021) within 20 km of the project footprint in the Bungonia region.

The species is known to occur in the Inland Slopes and Bondo IBRA subregions, however due to no associated PCTs mapped in these two IBRA subregions, the species is considered unlikely to occur in these portions of the project footprint.

A total of 11.70 ha (18%) of potential habitat within the project footprint would be directly impacted due to the project with the potential to cause associated indirect impacts including edge effects and weed incursion.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

Cotoneaster Pomaderris was not recorded in the project footprint but is considered to have a moderate likelihood of occurrence in the Bungonia IBRA Subregion based on indicative mapping and habitat assessments. Additionally, there are 141 known records (DPIE, 2021) within 20 km of the project footprint in the Bungonia region.

Within the project footprint there is 64.32 ha of potential habitat mapped (comprising PCT 1150), of which, 11.70 ha (18%) would be cleared as a result of the project. Given the relatively large area of impact and the potential for the species to occur based on numerous records within the vicinity, the project is considered to have the potential to lead to a long-term decrease in the species or a population of the species, should it occur.

Reduce the area of occupancy of the species

There is no defined area of occupancy for this species. The extent of impact within the project footprint on the species is 11.70 ha (18% of the total mapped potential habitat within the project footprint). The project would directly impact potential habitat and has the potential to result in indirect impacts to potential habitat.

Of the potential habitat within the project footprint, it is unlikely that the species is restricted to the area being directly impacted, and thus its area of occupancy may be greater than the habitat within the Bungonia subregion alone. However, based on the removal of over 11.70 ha of potential habitat, should the species occur, the project may reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

As mentioned above, since surveys were not conducted within the required season, species presence could not be ruled out and it has been assumed as having the potential to occur in all areas of potential habitat based on the precautionary principle.

Potential habitat is defined as the extent of woody PCT 1150, where the species has been considered to have a moderate likelihood of occurrence. This PCT occurs in two distinct patches within the Bungonia subregion. The indicative disturbance area bisects the potential Cotoneaster Pomaderris habitat within these patches. Total (6.57 ha) and partial (5.13 ha) clearing is proposed within the indicative disturbance area.

As the species is likely to be pollinated by flying insects, and its seeds dispersed by wind, permanent structures, such as access tracks and towers, are unlikely to completely prevent pollination and gene flow between individuals post construction.

The project would directly impact 11.70 ha of potential habitat, which constitutes 18% of the total 64.32 ha mapped in the project footprint. Given the relatively large area of impact and the placement of the indicative TCZ in the middle of potential habitat (which has the potential to physically bisect the patch), if the species is present in the area the project is considered to have the potential to fragment any existing important population into two or more populations.

Adversely affect habitat critical to the survival of a species

There is no Critical Habitat in NSW defined under section 207A of the EPBC Act or in the Register of Critical Habitat for the species. However, due to the species eligibility for listing (restricted range and/or severe fragmentation), all habitat is considered critical to the survival of the species (DAWE, 2021c).

While Cotoneaster Pomaderris has not been recorded in the project footprint, the project will result in the removal of 11.7 ha of potential habitat. Indirect impacts, such as edge effects, weed incursion, weed spraying along roadsides, road widening and habitat degradation, also have the potential to negatively impact species habitat where it occurs adjacent to the project, however implementation of the proposed

mitigation measures would mitigate the risk of indirect impacts. Should the species occur, the project has the potential to impact habitat that may be critical to the survival of the species.

Disrupt the breeding cycle of a population

Cotoneaster Pomaderris is known to flower from October to November (VicFlora, 2020) and fruit matures in summer with seed being released predominantly in late January and early February (DECCW, 2009). Time to reproductive maturity for other Pomaderris is estimated at 2–6 years (Maryott-Brown & Wilks, 1993; Patykowski et al., 2014), and may be assumed to be similar for Cotoneaster Pomaderris. The pollinators of Cotoneaster Pomaderris are unknown, although insects are thought to be the primary pollinators of the Pomaderris genus generally (Patykowski et al., 2014).

The project would remove up to 11.7 ha of potential habitat for the species. This proposed vegetation removal is unlikely to significantly disrupt the reproduction of Cotoneaster Pomaderris in the long-term, given that the species is likely to be pollinated by mobile insects and its seeds wind dispersed.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 11.7 ha of potential habitat, which comprises 18% of the total 64.32 ha habitat mapped in the project footprint. Indirect impacts, as mentioned above, have the potential to negatively impact species habitat, however implementation of proposed mitigation measures would minimise the risk of indirect impacts. Given the relatively large area of impact and that targeted surveys were not undertaken for this species, the project is considered to have the potential to decrease habitat to an extent that leads to a decline in the species.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species. The area of potential habitat is already affected by weeds where soil disturbance has occurred and where areas have been subject to grazing. Mitigation measures have been proposed to minimise the risk of indirect impacts. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. There is low potential for any plant or machinery used in construction to transport pathogens to which Cotoneaster Pomaderris are susceptible. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

The Recovery Plan (DECCW, 2009b) for the species identifies the following strategies to achieve the recovery objectives:

- Conduct further survey
- Determine habitat critical to the survival of *Pomaderris cotoneaster* and monitor populations
- Remove threatening weeds

- Erect a barrier at Badgerys Lookout
- Population enhancement
- Investigate genetic diversity
- Obtain management agreements for populations on non-reserve tenure
- Provide information to affected parties
- Ensure adequate data management
- Co-ordinate recovery actions.

The project would not impede or interfere with any of targeted recovery actions for this species.

Conclusion

The project is considered to have the potential to significantly impact Cotoneaster Pomaderris due to the removal of 11.7 ha of potentially suitable habitat where it is considered to have a moderate likelihood of occurrence based on the precautionary principle. A summary of the NSW assessment bilateral requirements for Cotoneaster Pomaderris is presented in Table A18- 10.

Table A18- 10: NSW assessment bilateral requirements for Cotoneaster Pomaderris

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for Cotoneaster Pomaderris, populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled habitat distribution provided below. Current distribution map for Cotoneaster Pomaderris (DEECCW 2022x) According to Conservation Advice (DAWE, 2021c), "There is sufficient evidence through the species eligibility for listing, to declare all populations/the national population as important populations of this species under particular pressure of survival and which therefore require protection to support the recovery of the species."
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Due to the species' limited survey period (October to November), no surveys were conducted for this species within associated habitat in Bungonia.

NSW Assessment Bilateral requirements	
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Cotoneaster Pomaderris: • Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Cotoneaster Pomaderris is estimated at 11.7 ha of potential habitat removal. There is the potential for indirect impacts (such as edge effects and weed incursion) to occur to any retained areas of the species habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.

NSW Assessment Bilateral requirements	
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.2.7 Critically Endangered orchids: Bago Leek Orchid (*Prasophyllum bagoense*), Brandy Mary's Leek-orchid (*Prasophyllum innubum*), Kelton's Leek Orchid (*Prasophyllum keltonii*), Blue-tongued Greenhood (*Pterostylis oreophila*)

The Bago Leek Orchid, Brandy Mary's Leek-orchid, Kelton's Leek Orchid and Blue-tongued Greenhood are listed as Critically Endangered under the EPBC Act and the BC Act.

Description

Bago Leek-orchid

The Bago Leek Orchid is a slender, tuberous, terrestrial herb growing singly or in loose groups, with an erect leaf 20–35 cm long, and 15–30 pale tawny-green, sometimes pink, scented flowers in a moderately dense spike (DSEWPaC, 2012a). The species is easily identified by its strongly twisted and recurved dorsal sepal, upswept petals and S-shaped labellum (DSEWPaC, 2012a).

The Bago Leek Orchid is known from a single population at McPhersons Plain, east of Tumbarumba in the Southern Tablelands of New South Wales (DSEWPaC, 2012a). Both its extent of occurrence and area of occupancy are less than 1 km^2 (DSEWPaC, 2012a). This species occurs within the Australian Alps Bioregion and the Murrumbidgee Natural Resource Management Region (DSEWPaC, 2012a). The distribution of this species is associated with the Alpine Bog Communities EPBC Act-listed TEC (DSEWPaC, 2012a). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022ab) indicates that the portion of the project south of Tumut is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

The species' habitat is wet grasslands in sub-alpine treeless plains at an elevation of approximately 1200 m and extends into adjacent eucalypt woodland (DSEWPaC, 2012a). Plants are insect-pollinated, probably by a wasp species (DSEWPaC, 2012a). They are not known to reproduce vegetatively but are reliant on seed-set and germination for recruitment of new plants. There are no data on the effects of fire on this species, although it does flower freely without fire stimulation (DSEWPaC, 2012a).

Brandy Mary's Leek-orchid

The Brandy Mary's Leek-orchid is a terrestrial herb growing singly or in loose groups, with an erect leaf 25–50 cm long and with 6–20 small brownish-purple flowers with white or pinkish labellums (DoE, 2014a).

Brandy Mary's Leek-orchid occurs east of Tumbarumba in the Southern Tablelands in Bago State Forest Crown leases and on adjacent private land (DoE, 2014a). It has an extent of occurrence of 45 km^2 and an area of occupancy of 1.5 ha (0.015 km^2). Its population size fluctuates between 0 and 200 visible plants in eight small populations, with one population now thought to be extinct (DoE, 2014a). The population has declined from around 400 plants since 2004 (DoE, 2014a).

This species occurs within the Australian Alps Bioregion and the Murrumbidgee Natural Resource Management Region (DoE, 2014a). The distribution of this species is associated with the Alpine Sphagnum Bogs and Associated Fens EPBC Act-listed TEC (DoE, 2014a). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022z) indicates that the portion of the project south of Tumut is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

Brandy Mary's Leek-orchid grows beside small streams and peatland Sphagnum hummocks, in adjacent grassy flats and extending into open woodland, at approximately 1,200 m above sea level (DoE, 2014a). Plants are self-pollinating, although small bees have been observed on flowers and may affect some pollination (DoE, 2014a).

Kelton's Leek-orchid

The Kelton's Leek-orchid is a terrestrial herb growing singly or in loose groups, with an erect leaf 25–35 cm long and with 12–22 green, brownish, red or purple fragrant flowers in a dense spike (DoE 2014b).

Kelton's Leek-orchid occurs on McPhersons Plain in Bago State Forest, east of Tumbarumba in the Southern Tablelands, in Brandy Mary's Crown Leases and on adjacent private land (DoE 2014b). It has an extent of occurrence of approximately 12 ha (0.12 km^2) and area of occupancy of less than 1 ha (0.01 km^2) (DoE 2014b). Its population size fluctuates between 10 and 250 individuals (DoE 2014b). The population has declined from around 400 plants since 2004 (DoE 2014b).

This species occurs within the Australian Alps Bioregion and the Murrumbidgee Natural Resource Management Region (DoE 2014b). The distribution of this species is associated with the 'Alpine Sphagnum Bogs and Associated Fens' EPBC listed ecological community (DoE 2014b). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022aa) indicates that the portion of the project south of Tumut is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

Kelton's Leek-orchid grows on a tussock grassland plain, in moisture retentive brown loam at approximately 1,200 m above sea level (DoE 2014b). The flowers are insect-pollinated, probably by a wasp species (DoE 2014b). The species is not known to reproduce vegetatively (DoE 2014b).

Blue-tongued Greenhood

The Blue-tongued Greenhood is a terrestrial orchid growing to 200 mm tall, with dark green, fleshy, flat leaves (DSEWPaC 2012b). Basal leaves are stalked, whilst the other leaves are stalkless and are scattered up the stem (DSEWPaC 2012b). The flower stem is smooth. The solitary flowers are erect, light green and white, and 25–30 x 12–16 mm in size (DSEWPaC 2012b). The recurved labellum is a distinctive bluish or blue-green (aqua) colour (DSEWPaC 2012b). The sharply pointed dorsal sepal is of a similar length to the petals (DSEWPaC 2012b).

The Blue-tongued Greenhood occurs in 20 locations in four distinct geographic locations: the Brindabella Ranges in the Australian Capital Territory (ACT); the Kiandra and Bago areas of New South Wales (NSW); and north-east Victoria (DSEWPaC 2012b). Its total estimated population is 240 mature individuals (DSEWPaC 2012b). The extent of occurrence and area of occupancy of this species are unknown, however due to the low number of mature individuals and severe fragmentation it is likely that the species has a

very restricted geographic distribution (DSEWPaC 2012b). Given the current threats impacting on the species, it is likely that the number of plants will decline in the future (DSEWPaC 2012b).

The Blue-tongued Greenhood occurs in the following Natural Resource Management regions: ACT (ACT); Murrumbidgee, Murray, Southern Rivers (NSW); North-east, East Gippsland (Vic) (DSEWPaC 2012b). It occurs in the South-east Highlands, Australian Alps and South-east Corner Bioregions. The distribution of this species overlaps with the 'Alpine Sphagnum Bogs and Associated Fens' EPBC Act-listed TEC (DSEWPaC 2012b). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW 2022ac) indicates that the portion of the project south and east of Tumut is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species is considered likely to occur within the project footprint.

The species is restricted to growing beside small montane and subalpine streams under tall dense thickets of *Leptospermum grandiflorum* (mountain tea tree), in black oozing mud or less commonly in peaty soils and sphagnum mounds (DSEWPaC 2012b). This type of habitat occurs throughout much of the upper areas of Kosciuszko National Park and the Alpine National Park areas in Victoria (DSEWPaC 2012b).

Specific impacts

Bago Leek Orchid

Bago Leek Orchid was directly recorded within the project footprint within PCTs 1196 and 1224 in the Snowy Mountains IBRA Subregion. 101.56 ha of potential and known habitat for the species has been mapped within the project footprint and comprises PCTs 1196 and 1224. Of this, 31.90 ha (31%) would be impacted by the project. Whilst the project would not directly clear any recorded individuals, 31.90 ha of adjacent habitat would be impacted and there is a high probability that undetected individuals occupy these habitats. Associated indirect impacts (including edge effects and weed incursion) are likely to occur due to the project, however avoidance and mitigation measures have been set out in Sections 12 and 14 of the BDAR to address these. Given the species occupies the ground layer and prefers treeless habitats, there is considerable potential for impact avoidance through sensitive design and the micro-siting of transmission line structures and access tracks. Avoidance measures would be fully explored during detailed design.

Brandy Mary's Leek-orchid

Brandy Mary's Leek-orchid was not recorded during targeted surveys but has a high likelihood of occurrence within potential habitat mapped in the project footprint and three previous known records (DPIE 2021) are located within 1 km of the project footprint. A total of 8.83 ha of potential habitat comprising PCT 1224, has been mapped within the Snowy Mountains portion of project footprint, of which 0.25 ha (0.3%) would be impacted by the project. Associated indirect impacts (including edge effects and weed incursion) are likely to occur due to the project, however avoidance and mitigation measures have been set out in Sections 12 and 14 of the BDAR to address these. Given the species occupies the ground layer and prefers treeless habitats, there is considerable potential for impact avoidance through sensitive design and the micro-siting of transmission line structures and access tracks. Avoidance measures would be fully explored during detailed design.

Kelton's Leek Orchid

Kelton's Leek Orchid was recorded immediately adjacent to the project footprint within PCT 1196 in the Snowy Mountains IBRA Subregion. 92.74 ha of potential habitat for the species has been mapped within

the project footprint and comprises PCTs 1196. Of this, 31.70 ha (34%) would be impacted by the project. Whilst the project would not directly clear any recorded individuals, 31.70 ha of adjacent habitat would be impacted and there is a high probability that undetected individuals occupy these habitats. Associated indirect impacts (including edge effects and weed incursion) are likely to occur due to the project, however avoidance and mitigation measures have been set out in Sections 12 and 14 of the BDAR to address these. Given the species occupies the ground layer and prefers treeless habitats, there is considerable potential for impact avoidance through sensitive design and the micro-siting of transmission line structures and access tracks. Avoidance measures would be fully explored during detailed design.

Blue-tongued Greenhood

Blue-tongued Greenhood was not recorded during targeted surveys but has a high likelihood of occurrence within potential habitat mapped in the project footprint. Four previous known records (DPIE 2021) are located within 1 km of the project footprint. A total of 2.95 ha of potential habitat comprising PCT 939, has been mapped within the Snowy Mountains portion of project footprint, of which 0.56 ha (19%) would be impacted by the project. Associated indirect impacts (including edge effects and weed incursion) are likely to occur due to the project, however avoidance and mitigation measures have been set out in Sections 12 and 14 of the BDAR to address these. Given the species occupies the ground layer and prefers treeless habitats, there is considerable potential for impact avoidance through sensitive design and the micro-siting of transmission line structures and access tracks. Avoidance measures would be fully explored during detailed design.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for these species is as follows:

- Approved conservation advice for the Bago Leek Orchid (DSEWPaC, 2012a) in effect under the EPBC Act from 3 May 2012; the Brandy Mary's Leek-orchid (DoE, 2014a) in effect under the EPBC Act from 24 January 2014; the Kelton's Leek Orchid (DoE, 2014b) in effect under the EPBC Act from 24 January 2014; and the Blue-tongued Greenhood (DSEWPaC, 2012b) in effect under the EPBC Act from 03-May-2012
- Listing advice for the Bago Leek Orchid (TSSC, 2012a), the Brandy Mary's Leek-orchid (TSSC, 2014a), the Kelton's Leek Orchid (TSSC, 2014b), and the Blue-tongued Greenhood (TSSC, 2012b).
- There is no adopted or made Recovery Plan for any of these species. The SPRAT database indicates that a Recovery Plan is not required as the approved conservation advice for these species provides sufficient direction to implement priority actions and mitigate against key threats.
- No Threat Abatement Plan has been identified as being relevant for these species.
- Relevant Commonwealth survey guidelines for this species include:
  - Draft survey guidelines for Australia's threatened orchids (DoE, 2013b).

Significant impact criteria

An action is likely to have a significant impact on an Endangered or Critically Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The Bago Leek Orchid and Kelton's Leek Orchid have been verified as known within, or directly adjacent to the project footprint and are considered to have the potential to occur in all areas of suitable habitat based on indicative mapping, habitat assessments and nearby records. Whilst the Blue-tongued Greenhood was not detected during the targeted surveys, known records (DPE, 2021a) are in close proximity (less than 1 km) to the project footprint, and the species is considered to have the potential to occur in all areas of suitable habitat.

The project is considered to have the potential to lead to a long-term decrease in the Bago Leek Orchid, Kelton's Leek Orchid and Blue-tongued Greenhood populations. This is taking into consideration that there would be direct impacts to the mapped indicative habitat of the species and its presence within, or directly adjacent to the project footprint. Avoidance and mitigation measures have been incorporated into the project. Further detailed recommendations as to specific mitigation measures to prevent impacts to potential habitats for the species have been included in this report.

The Brandy Mary's Leek-orchid also has a high likelihood of occurrence in the project footprint, however only 0.25 ha (3%) of potential habitat would be directly impacted by the project. Given the small area of impact and that no individuals were recorded within it, the project is considered unlikely to lead to a long-term decrease in the size of the population of Brandy Mary's Leek-orchid, should it occur.

Reduce the area of occupancy of the species

The Bago Leek Orchid and Kelton's Leek Orchid were detected in the project footprint during field surveys. The conservation advice for the Bago Leek Orchid states that the species has an area of occupancy of less than 100 ha and the conservation advice for the Kelton's Leek Orchid states that the species has an area of occupancy of less than 1 ha. A total of 31.90 ha of potential habitat for the Bago Leek Orchid, and 31.7 ha of potential habitat for the Kelton's Leek Orchid would be cleared as a result of the project. This would potentially reduce the area of occupancy of the Bago Leek Orchid by up to 32%, however it is considered unlikely that all areas of suitable habitat within the subject actually contain this species and therefore the reduction to the area of occupancy is likely to be less. The area of potential habitat to be cleared is greater than the area of occupancy for the Kelton's Leek Orchid. Given the very small area of occupancy of this species, the reduction would potentially be substantial.

The Brandy Mary's Leek-orchid and Blue-tongued Greenhood were not detected in the project footprint during field surveys, however if these species are present in areas that would be cleared as a result of the project, then the area of occupancy of these species would potentially be reduced. As these species have not been recorded within the project footprint, the extent that clearing could reduce the area of occupancy of these species is unknown.

A total of 0.56 ha of potential habitat for the Blue-tongued Greenhood would be cleared as a result of the project. The area of occupancy of the is Blue-tongued Greenhood is unknown, however the conservation advice for the species indicates it is likely to be low. Therefore, the amount of potential habitat for the Blue-tongued Greenhood within the clearing footprint may represent a substantial area of habitat for the species, should it occur.

A total of 0.25 ha (3%) potential habitat for the Brandy Mary's Leek-orchid would be cleared as a result of the project. Should the species occur within all areas of potential habitat, then the removal of 3% is unlikely to substantially reduce the area of occupancy of the species, should it occur.

These impacts may be avoided through design changes and micro siting of infrastructure. It is recommended that the habitats are avoided and protected.

Fragment an existing population into two or more populations

The project would include construction of transmission line structures, access tracks and other facilities but would maintain groundcover and vegetation up to a certain height within the TCZ. Groundcover would not be removed in the ECZ and HTZ. Where the indicative disturbance area intersects habitat across the footprint, it is along the edge of habitat patches adjacent to previously cleared easement, removing less than a hectare from each patch and minimally affecting connectivity.

Potential and known habitat for Bago Leek Orchid is comprised of PCTs 1196 and 1224 and is mostly present as a continuous state within the project footprint. However, the area of impact would occur adjacent to the existing easement, so whist habitat would be removed, it would not further fragment existing populations or their habitat.

Potential habitat for Brandy Mary's Leek-orchid comprises PCT 1224, which forms an open grass and/or heath. TCZ transmission line structures would clear a small portion on either side of the mapped potential habitat. Given only the edges of the habitat would be impacted, fragmentation of any existing population is unlikely to occur as a result of the project.

Potential and known habitat for Kelton's Leek Orchid comprises PCT 1196 and is mostly present as a continuous state within the project footprint. However, the area of impact would occur adjacent to the existing easement, so whist habitat would be removed, it would not further fragment existing populations or their habitat.

Potential habitat for Blue-tongued Greenhood comprises PCT 939 which forms wet heath and bog. The majority of the mapped habitat occurs in the existing easement directly adjacent to the project footprint and would not be impacted by the project. However, the indicative disturbance area cuts through one patch of mapped habitat, and may cause fragmentation to any potential population of Blue-tongued Greenhood.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat or identified in the conservation advice for any of the orchid species discussed in this assessment. Conservation Advice for these species indicates that the distribution and area of occupancy of these species is very limited. Therefore, should these species occur in these areas of potential habitat, these areas of habitat may be considered critical to the survival of the species. Given the project would result in impacts to these areas of potential habitat, the project has the potential to adversely affect habitat that may be critical to the survival of the species.

All four orchid species discussed in this assessment inhabit ecological communities that are listed nationally as EPBC Act-listed TECs. Therefore, implementation of proposed measures to avoid/mitigate impacts to these TECs would also potentially benefit these species.

Disrupt the breeding cycle of a population

Orchid seeds are adapted to long-distance wind dispersal (Phillips *et al.* 2020). As such, the narrow, linear nature of the clearing footprint is unlikely to impede seed dispersal. In addition, no barriers that would

restrict pollinator movement would occur as a result of the project. While orchid seeds can disperse long distances, and the project would not necessarily affect pollinators, any impacts to the habitats or the populations themselves is likely to disrupt the breeding cycle. This is because:

- where recorded, few individual plants were/are known to be present
- the areas of occupancy are very small
- flowering and seeding are likely to be dynamic spatially.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The Bago Leek Orchid, Kelton's Leek Orchid and Blue-tongued Greenhood have a limited area of occupancy and, where recorded, only a few individual plants were/are known to be present. Given this, in conjunction with the large area of clearing of species habitat (31% of Bago Leek Orchid habitat, 34% of Kelton's Leek Orchid habitat and 19% of Blue-tongued Greenhood habitat), if the species are present within all areas of potential habitat, the project has the potential to result in species decline.

The Brandy Mary's Leek-orchid has a larger area of mapped habitat within the project footprint, of which, only 3% would be impacted by the project. Given majority of the species habitat would remain within the project footprint, it is unlikely that the project would cause the species to decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for these species. Mitigation measures have been proposed to mitigate the risk of indirect impacts. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

There is a low potential for any plant or machinery used in construction to transport pathogens, to which these species are susceptible.

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

The project has the potential to interfere with the following recovery action listed in conservation advice for the Bago Leek Orchid, the Kelton's Leek Orchid and the Blue-tongued Greenhood;

- Ensure there is no disturbance in areas where the species occurs, excluding necessary actions to manage the conservation of the species/ecological community.

The same recovery action is listed in the conservation advice for the Brandy Mary's Leek-orchid, however only 3% of habitat suitable for this species would be removed the project is unlikely to interfere with the recovery action for this species.

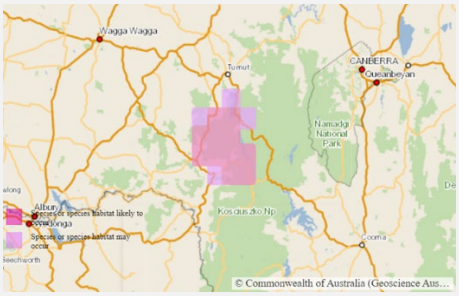
Conclusion

In line with the above findings, the project is considered unlikely to have a significant impact on the Brandy Mary's Leek-orchid.

Due to the factors described above, it is considered that the project has the potential to have a significant impact on Kelton's Leek Orchid, the Bago Leek Orchid, and the Blue-tongued Greenhood.

A summary of the NSW assessment bilateral requirements for critically endangered orchids is presented in Table A18- 11 and Table A18- 12.

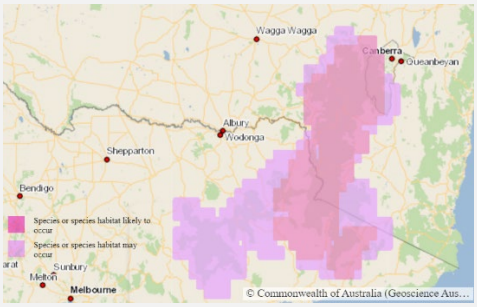
Table A18- 11: NSW assessment bilateral requirements for Bago Leek Orchid and Brandy Mary's Leek-orchid

NSW Assessment Bilateral requirements	Bago Leek Orchid	Brandy Mary's Leek-orchid
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for the Bago Leek Orchid, populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its habitat distribution provided below. Current distribution map for Bago Leek Orchid (DEECCW, 2010DCCEEW, 2022ab) Relevant Commonwealth guidelines for this species includes: Approved conservation advice for the Bago Leek Orchid (DSEWPaC, 2012a) and Draft survey guidelines for Australia's threatened orchids (DoE, 2013b).	A description of habitat for the Brandy Mary's Leek-orchid, populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its habitat distribution provided below.  Current distribution map for Brandy Mary's Leek-orchid (DEECCW, 2010DCCEEW, 2022z) Relevant Commonwealth guidelines for this species includes: Approved conservation advice for the Brandy Mary's Leek-orchid (DoE 2014a) and Draft survey guidelines for Australia's threatened orchids (DoE, 2013b).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE, 2020b) with a detailed field verification method provided in Section 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under section 4.1 of the BAM, with detailed requirements outlined in section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) Guideline for Surveying threatened plants and their habitats. Survey for the Bago Leek Orchid: Snowy Mountains - No targeted surveys conducted for this species. Survey for Brandy Mary's Leek-orchid: Snowy Mountains - 9 surveys in Mar-22	
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.	
Description of the specific proposed avoidance and	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to orchid species:	

NSW Assessment Bilateral requirements	Bago Leek Orchid	Brandy Mary's Leek-orchid
mitigation measures to deal with relevant impacts of the action	• Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).	
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Bago Leek Orchid is predicted to be 31.90 ha of potential and known habitat removal. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).	The residual impact to the Brandy Mary's Leek-orchid is predicted to be 0.25 ha of potential habitat removal. This is considered unlikely to be a potentially significant impact.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR.	Not required. As per the SIA, residual impacts to this species were considered unlikely to be significant. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR. Impacts to Brandy Mary's Leek-orchid would be offset under the NSW BOS.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.	
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ Through making a payment into the Biodiversity Conservation Fund.	
Any significant residual impacts not addressed by the BAM may need to be addressed in	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to	As detailed above, all residual impacts to the species would be offset under the NSW BOS and, as per the SIA, significant residual impacts to this

NSW Assessment Bilateral requirements	Bago Leek Orchid	Brandy Mary's Leek-orchid
accordance with the EPBC Act Environmental Offset Policy.	the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.	species are considered unlikely. Therefore, application of the EPBC Act Environmental Offset Policy is not required.

Table A18- 12: NSW assessment bilateral requirements for Kelton's Leek Orchid and Blue-tongued Greenhood

NSW Assessment Bilateral requirements	Kelton's Leek Orchid	Blue-tongued Greenhood
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for the Kelton's Leek Orchid, populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its habitat distribution provided below. Current distribution map for Kelton's Leek Orchid (DCCEEW, 2022aa) Relevant Commonwealth guidelines for this species includes: Approved conservation advice for the Kelton's Leek Orchid (DoE, 2014b) and Draft survey guidelines for Australia's threatened orchids (DoE, 2013b).	A description of habitat for the Blue-tongued Greenhood, populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its habitat distribution provided below.  Current distribution map for Blue-tongued Greenhood (DCCEEW 2022ac) Relevant Commonwealth guidelines for this species includes: Approved conservation advice for the Blue-tongued Greenhood (DSEWPaC, 2012b) and Draft survey guidelines for Australia's threatened orchids (DoE, 2013b).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE, 2020b) with a detailed field verification method provided in Section 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under section 4.1 of the BAM, with detailed requirements outlined in section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) Guideline for Surveying threatened plants and their habitats. Surveys conducted: • Snowy Mountains - 19 surveys in Jan-22.	
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.	
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to orchid species: • Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to the species, where possible. • Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation.	

NSW Assessment Bilateral requirements	Kelton's Leek Orchid	Blue-tongued Greenhood
	• Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).	
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Kelton's Leek Orchid is 31.7 ha of potential and known habitat removal. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).	The residual impact to the Blue-tongued Greenhood is 0.56 ha of potential habitat removal. The residual impact to this species was considered to have the potential to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR.	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.	
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.	
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.	

2.2.8 Austral Toadflax (*Thesium australe*)

The Austral Toadflax is listed as Vulnerable under the EPBC Act and the BC Act.

Description

The distribution of the Austral Toadflax is along the Eastern border of Australia from Queensland down to Victoria. Its current distribution is sporadic but widespread. In NSW to species is found as far as the southern, central, and northern tablelands (DoE, 2013c). Indicative distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022ad) indicates that the portion of the project around the Tumut through to the Goulburn is mapped with both 'species and species habitat likely to occur' and 'species and species habitat may to occur'. As such, the species has a moderate likelihood of occurrence within the Snowy Mountains portion of the project footprint, but a low likelihood in Bungonia, Crookwell, Murrumbateman and Bondo based on limited habitat, geographic constraints, survey coverage and minimal previous records within 20 km of the project footprint. The species is predicted to occur in the Inland Slopes IBRA Subregion.

The habitat required by the Austral Toadflax includes subtropical, temperate and subalpine climates over a wide range of altitudes on soils derived from sedimentary, igneous and metamorphic geology. This species is associated with inhabiting the following EPBC Act-listed TECs (TEC; DoE, 2013c):

- Lowland Grassy Woodland in the Southeast Corner Bioregion
- New England Peppermint (*Eucalyptus nova-anglica*) Grassy Woodlands
- Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin
- Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland
- Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Is this part of an important population?

No important populations have been defined for Austral Toadflax. However, the potential habitat for Austral Toadflax within the project footprint is located at the western extent of the species range, in areas where it is predicted the species habitat is likely to, or may occur, according to the species SPRAT profile. Therefore, any individuals present within the project footprint are likely to occur on the edge of the species range and be considered part of an important population due to their location at the extent of the species range.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Austral Toadflax (DoE, 2013c), in effect under the EPBC Act from 17 December 2013.
- The SPRAT database indicates that there is no Recovery Plan for the Austral Toadflax.
- The following Threat Abatement Plan is relevant to the species:

- Threat abatement plan for competition and land degradation by rabbits in effect under the EPBC Act from 7 January 2017.

There are no relevant Commonwealth survey guidelines for this species.

Specific impacts

The Austral Toadflax was not recorded within the project footprint but is considered to have a moderate likelihood of occurrence in the Snowy Mountains IBRA subregion based on indicative mapping and habitat assessments. Potential habitat for the species occurs within the within PCTs 679, 191, 1224 and 1330. As mentioned above, the potential for the species to occur in the other subregions has been discounted due to low likelihood of occurrence.

Whilst the species was not recorded during targeted surveys, there are 19 previous records within 20 kilometres of the project footprint (DPIE, 2021). In the Snowy Mountains portion of the project footprint there is 117.61 ha of potential habitat (comprising PCTs 679, 1196 and 1224) mapped, of which, 23.70 ha (20%) would be cleared as a result of the project.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

The Conservation advice (DoE, 2013c) does not describe any populations as 'Important Populations' for the Austral Toadflax. However, as mentioned above, the potential habitat for Austral Toadflax within the project footprint is located at the western extent of the species range and therefore any individuals within the potential habitat may comprise an important population.

A relatively large area of potential habitat is proposed to be cleared (ie 23.70 ha comprising 20% of the total habitat within the project footprint). If an unaccounted-for population was present in the potential habitat that is as yet unsurveyed it is possible under the precautionary approach that the project could lead to a long term decrease in the size of an important population.

Reduce the area of occupancy of an important population

There is no defined area of occupancy for this species. The extent of impact within the project footprint on the species is 23.70 ha (20% of the total mapped potential habitat within the project footprint). The project would directly impact potential habitat for the species and has the potential to result in indirect impacts to habitats (such as edge effects and weed incursion). It is considered likely that the scale of these impacts would render any potential habitats no longer suitable. Under the precautionary approach and considering the relatively large area of impact on potential habitat, the project is considered to have the potential to reduce the area of occupancy of the species, should it occur within the project footprint.

Fragment an existing important population into two or more populations

While no individuals of Austral Toadflax have been recorded within the project footprint, the species is still considered to have a moderate likelihood of occurrence and if present, may form part of an important population.

The project would directly and indirectly impact potential habitat for the species. The potential habitat for the species, comprising PCTs 679, 1191, 1196, 1224 and 1330, is present in both continuous and fragmented states within the project footprint. The indicative disturbance area is patchily distributed within the footprint, with few areas of continuous clearing most likely to fragment an area of potential habitat. Where the indicative disturbance area does intersect habitat across the footprint, it is mostly along the edge of habitat patches adjacent to previously cleared areas, removing less than a hectare from each patch and minimally affecting connectivity.

In subalpine and tableland climates Austral Toadflax dies back to rootstock during winter and resprouts in spring. Ensuring any temporary ground storey clearing required is undertaken outside of flowering times will prevent disruption to the breeding cycle. Mitigation and avoidance strategies, such as pre-clearance surveys and micro siting of transmission line structures would further ensure that impact on important populations, if present, is being minimised during construction.

Given the above, the project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

There is no Critical Habitat in NSW defined under section 207A of the EPBC Act that has been identified or included in the Register of Critical Habitat for the species. However, due to the species association with six EPBC Act listed TECs, this habitat will have high conservation value that potentially also benefits the species (DoE, 2008c).

The species has a widespread distribution including being known to occur within subtropical, temperate and subalpine environments over a wide range of altitudes. Due to its large distribution across a variety of climates and soil types, the habitat to be impacted within the project footprint is unlikely to be critical to the survival of the species.

Disrupt the breeding cycle of an important population

Austral Toadflax flowers and fruits during summer at higher altitudes and is known to die back to rootstock during winter and resprouts in spring (Griffith, 1996). Given the species-specific life cycle, while the vegetation removal would result in loss of about 23.70 ha of potential habitat, the proposed vegetation removal is unlikely to significantly disrupt the breeding cycle in the long-term, as there would be other suitable habitats still in-tact in the project footprint (83.64 ha of potential habitat) that would not be directly affected by the project.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project could result in the removal of 23.70 ha of potential habitat, which comprises 20% of the total 117.61 ha of potential habitat mapped in the project footprint. Indirect impacts as mentioned above, have the potential to negatively impact species habitat (eg through edge effects and weed incursion). However, implementation of the proposed mitigation measures would mitigate the risk of indirect impacts. Should the species occur, the removal of about one third of the potential habitat available, may have the potential to result in species decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species. The area of potential habitat is already affected by weeds where soil disturbance has occurred and where areas have been subject to grazing. Mitigation measures have been proposed to mitigate the risk of indirect impacts. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

There is a low potential for any plant or machinery used in construction to transport pathogens, to which Austral Toadflax are susceptible.

Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. There is low potential for any plant or machinery used in construction to transport pathogens, to which Austral Toadflax may be susceptible. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

The Conservation Advice (DoE, 2013c) for the species identifies the following strategies to achieve the recovery objectives:

- Habitat Loss, Disturbance and Modification
  - Monitor known populations to identify key threats.
  - Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
  - Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants (OEH, 2013).
  - Mark sites and potential habitat onto maps used for planning (OEH, 2013).
  - Minimise adverse impacts from land use at known sites.
  - Do not undertake road works, pasture modification and other land use changes that will impact on this listed species (OEH, 2013).
  - Protect populations of the listed species through the development of conservation agreements and/or covenants.
- Invasive Weeds
  - Identify and remove weeds in the local area that could become a threat to the austral toadflax, using appropriate methods.
  - Manage site/s to prevent introduction of invasive weeds that could become a threat to the austral toadflax, using appropriate methods.
- Trampling, Browsing or Grazing
  - If livestock grazing occurs in the area, ensure land owners/managers use an appropriate management regime and density that does not detrimentally affect this species and limit the overgrazing of grassland species.
  - Where appropriate, manage total grazing pressure at important sites through exclusion fencing or other barriers.
- Fire
  - Implement an appropriate fire management regime for local populations.

The project could impede or interfere with targeted recovery action objectives relating to: Habitat Loss, Disturbance and Modification.

Conclusion

In line with the above findings and the precautionary principal, the project is considered to have the potential to have a significant impact on the Austral Toadflax. A summary of the NSW assessment bilateral requirements for Austral Toadflax is presented in Table A18- 13.

Table A18- 13: NSW assessment bilateral requirements for Austral Toadflax

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for the Austral Toadflax, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. Current distribution map for Austral Toadflax (DCCEEW, 2022ad) The Approved Conservation Advice for the Austral Toadflax (DoE, 2013c) is the key conservation advice for the species.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field survey techniques used to undertake surveys were in general accordance with the NSW guide for the BAM (DPIE, 2020b) with a detailed field verification method provided in Chapter 4 of the BDAR. Mapping of native vegetation and habitat extent within the project is required under Section 4.1 of the BAM, with detailed requirements outlined in Section 3.2 of the BAM 2020 Operational Manual. Field data was used to assign condition classes for any given observed habitat patch, where relevant. Field surveys for threatened flora were carried out using a combination of parallel field traverses and a two-phase grid-based systematic survey approach as set out in the DPIE (2020b) Guideline for Surveying threatened plants and their habitats. Snowy Mountains • 19 surveys in Jan-22 • 9.6 km field traverse in Feb-21 (ELA)
Description of the relevant impacts and its regard to the full national extent of the species or community's range	A description of relevant impacts is provided in the 'Specific impacts' section of this assessment.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Austral Toadflax: • Project design refinement to potentially avoid impacts to the species wherever possible • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to the species, where possible.

NSW Assessment Bilateral requirements	
	• Using existing cleared areas and access tracks, where possible. • Biodiversity exclusion zones, which could consider the species habitat and known locations • Vegetation clearing and maintenance guidelines and procedures that addresses avoiding access and disturbance in biodiversity exclusion zones identified during the construction and avoiding maintenance of vegetation that does not need to be maintained during operation. • Soil and Water Management Plans (SWMP) including Erosion and Sediment Control Plans and Water Quality Monitoring Plans to mitigate construction impacts to groundwater and surface water drainage patterns. • Biodiversity Management Plan to be implemented during construction, including measures to reduce disturbance to sensitive vegetation areas, procedures for the demarcation and protection of retained vegetation, rehabilitation strategies for the management and maintenance of rehabilitated areas and monitoring requirements and compliance management (including weed control and management).
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Austral Toadflax is estimated at 23.70 ha of habitat removal. As detailed in the SIA above, it is considered that the impact may potentially be significant.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual, potentially significant impacts to the species would be offset under the NSW BOS. Details of offset requirements and obligations for this species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant residual impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3 Threatened fauna

2.3.1 Endangered/Critically Endangered frogs: Sloane's Froglet (*Crinia sloanei*), Booroolong Frog (*Litoria booroolongensis*) and Yellow-spotted Tree Frog (*Litoria castanea*)

The Sloane's Froglet is listed as Endangered under the EPBC Act and Vulnerable under the BC Act. The Booroolong Frog is listed as Endangered under the EPBC Act and the BC Act. The Yellow-spotted Tree Frog is listed as Critically Endangered under the EPBC Act and the BC Act.

Description

Sloane's Froglet

Sloane's Froglet is a small sized frog with a brown or browny-grey body growing up to 15-18 mm in length, depending on sex (TSSC, 2019a). Individuals have a distinct dark brown or olive markings over the back, and males specifically have orange-coloured spots.

The distribution of Sloane's Froglet is endemic to the Murray-Darling Basin locations in North Central Victoria and Central Western NSW to Queensland border (TSSC, 2019a). This extent range has become restricted to a very small area of NSW near Albury and Corowra. Indicative habitat distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022ae) indicates that the western portion of the project from the Wagga Wagga area through to Tumut is mapped as 'species habitat may occur'. As such, the species is considered to potentially occur within the project footprint.

The habitat required by Sloane's Froglet includes ephemeral and permanent waterbodies for various life cycle activities. Waterbodies, such as oxbows off creeks and rivers, farm dams, large and small natural wetlands, constructed frog ponds and temporary puddles are utilised by the species (TSSC, 2019a). Waterbodies containing aquatic vegetation such as grasses and reeds of medium height and small stem diameter are essential for breeding. For foraging and dispersal, the Sloane's Froglet requires connections between refuge sites to move across the landscape when it is wet (TSSC, 2019a).

Booroolong Frog

The Booroolong Frog is a medium-sized frog with grey, olive, or reddish-brown body growing up to 40-55 mm, depending on sex (TSSC, 2021a). Individuals have indistinct black markings and scattered salmon-coloured flecks with granular, cream to white in colour on the ventral surface (TSSC, 2021a).

The distribution of the Booroolong Frog is restricted along the western-flowing streams of the Great Dividing Range from NSW to North-eastern Victoria (OEH, 2012). There are three broad regions of subpopulations: Northern Tablelands, Central Tablelands, and Southern Tablelands (OEH, 2012). Indicative habitat distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022af) indicates that the western portion of the project from the Wagga Wagga area down through to Tumut and across to Yass is mapped with both 'species habitat likely to occur' and 'species habitat may occur'. As such, the species is considered to have the potential to occur within the project footprint.

The habitat required by the Booroolong Frog includes rocky, permanent waterbodies in wet and dry forest, woodland, and cleared grazed land (TSSC, 2021a). The species favour headwater streams with gravel, rock rapids, riffles, and pools. Dominated by a range of rock sizes and high sunlight exposures (TSSC, 2021a). Booroolong frogs shelter under rocks or amongst vegetation near the ground (OEH, 2012). For breeding the Booroolong Frog moves from daytime sheltering sites to cobble banks where females laid oviposit in rock crevices (TSSC, 2021a).

Yellow-spotted Tree Frog:

The Yellow-spotted Tree Frog is a large-sized, long-snouted frog with dull olive to emerald, green body growing up to 85 mm (TSSC, 2019b). Individuals have distinct scattered black spots and irregular bronze spotting, and a pale green stripe along the centreline of the back (TSSC, 2019b).

The distribution of the Yellow-spotted Tree Frog occurs two separate biogeographical regions in south-east Australia (TSSC, 2019b). Two disjunct populations are defined as the New England Tableland Bioregion around Guyra, and the South-eastern Highlands Bioregion around Lake George, Canberra (TSSC, 2019b). However, the species has not been located in the wild for 30 years. Indicative habitat distribution mapping from the Species Profile and Threats Database (DCCEEW, 2022ag) indicates that the portion of the project south of Yass and Goulburn is mapped with both 'species habitat likely to occur' and 'species habitat may occur'. As such, the species is considered to have potential to occur within the project footprint.

The habitat required by the Yellow-spotted Tree Frog includes permanent ponds, swamps, lagoons, farm dams and slow-flowing streams with emergent aquatic vegetation such as tall reeds and grassy banks (TSSC, 2019b). Breeding habitat includes slow-flowing waterbodies following reasonable rainfall, laying large spawn masses on the water surface attached to emergent vegetation (TSSC, 2019b). Over-winter, the species shelters in hollow-logs and buried in roots of fallen trees (TSSC, 2019b).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for these species as indicated by the SPRAT database is as follows:

- Approved conservation advice for the Sloane's Froglet (TSSC, 2019a), in effect under the EPBC Act from 4 July 2019,
- Approved conservation advice for the Booroolong Frog (TSSC, 2021a), in effect under the EPBC Act from 19 October 2021
- Approved conservation advice for the Yellow-spotted Tree Frog (TSSC, 2019b), in effect under the EPBC Act from 04 July 2019
- Recovery Plan for the Booroolong Frog (OEH, 2012), in effect under the EPBC Act from 19 September 2012
- Recovery Plan for the Yellow-spotted Tree Frog (NSW NPWS, 2001), in effect under the EPBC Act from 19 February 2004
- The Minister for the Environment has determined that a Recovery Plan is not required for the Sloane's Froglet as it is located in a relatively small area on the border between two jurisdictions and the Conservation Advice sufficiently outlines the priority research and conservation actions needed to support the recovery of this species.
- The Sloane's Froglet is not referred to in Threat Abatement Plans.
- The Booroolong Frog and Yellow-spotted Tree Frog are referred to in the Threat Abatement Plan for infection of amphibians with chytrid fungus resulting in *chytridomycosis*, in effect under the EPBC Act from 7 September 2016.
- In addition, the Yellow-spotted Tree Frog is referred to in the Threat Abatement Plan: for predation by feral cats, in effect under the EPBC Act from 23 July 2015.
- Relevant Commonwealth survey guidelines are not available for Sloane's Froglet.
- Relevant Commonwealth survey guidelines for the Booroolong Frog and Yellow-spotted Tree Frog include:

- Survey Guidelines for Australia's Threatened Frogs. EPBC Act survey guidelines 6.3 (DEWHA, 2010a).

Specific Impacts

PCTs associated with these species are present in the project footprint and include:

- Sloane's Froglet – PCTs 5, 285
- Booroolong Frog – PCTs 85, 268, 277, 278, 280, 283, 287, 290, 295, 298, 299, 306, 322, 343, 349, 351, 352, 727; 731, 858, 870, 1097, 1107, 1150, 1256, 1330
- Yellow-spotted Tree Frog – PCTs 85, 335, 939, 1256.

Potential habitat in terms of aquatic resources was very limited within the project footprint. Targeted surveys were carried out when potential habitats were identified. Targeted surveys for the Sloane's Froglet, Booroolong Frog and Yellow-spotted Tree Frog included spotlighting transects when conditions were optimal (ie after moderate rainfall events). There were no Sloane's Froglet, Booroolong Frog or Yellow-spotted Tree Frog recorded during targeted surveys. However, due to the inability to conclusively survey all areas of potential habitat, the species are assumed present within the project footprint due to the presence of potential habitat.

Potential terrestrial habitat to be cleared includes 2.60 ha of PCTs associated with the Sloane's Froglet (there is an additional 0.05 ha of impacts on non-native habitats for Sloane's Froglet (prescribed impacts); therefore, the total impact to Sloane's Froglet habitat, including prescribed impacts, is 2.65 ha), 0.11 ha of PCTs associated with the Booroolong Frog and 0.05 ha of prescribed impacts associated with the Yellow-spotted Tree Frog.

The construction process for the transmission line structures avoids direct impacts to major waterways and none of the waterways that have been mapped as within the species indicative distribution (DoE, 2022a) would be crossed by any proposed access tracks for waterway crossings.

As such, this assessment focusses on the potential for residual indirect impacts to potential terrestrial habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during construction.

Significant impact criteria

An action is likely to have a significant impact on an Endangered or Critically Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

Population declines in these species have been attributed to Chytridiomycosis. Additional factors that contribute to population decline in these species are as follows:

- Sloane's Froglet populations have declined due to drought, habitat degradation and fragmentation.
- The Booroolong Frog is reliant on permanent water and populations have declined due to streams that dried during recent severe droughts.
- The cause of the apparent declines observed in populations of the Yellow-spotted Tree Frog are unclear, however it is believed that tadpole predation by the introduced fish Gambusia may be a contributing factor.

These species have not been verified as known in the project footprint but are considered likely to occur based on indicative habitat mapping and habitat assessments. Suitable aquatic habitats are located throughout the project footprint.

These species have not been verified as known in the project footprint but are considered likely to occur based on indicative habitat mapping and habitat assessments. Suitable aquatic habitats are located throughout the project footprint.

Potential habitat within the project footprint includes 2.60 ha of PCTs associated with the Sloane's Froglet (2.65 ha including prescribed impacts), 0.11 ha of PCTs associated with the Booroolong Frog, and 0.05 ha of prescribed impacts associated with the Yellow-spotted Tree Frog (no PCTs associated with the Yellow-spotted Tree Frog would be impacted).

The area of occupancy for Booroolong Frog is 1,000 ha (AmphibiaWeb, 2023a). The project has the potential to reduce the area of terrestrial occupancy for the species by 0.11 ha. The project is considered to reduce habitat by 0.01%.

The area of occupancy for Sloane's Froglet is approximately 10,830,000 ha (AmphibiaWeb, 2023b). The project has the potential to reduce the area of terrestrial occupancy for the species by 2.60 ha (2.65 ha including prescribed impacts). The project is considered to reduce habitat by less than 0.001%.

The area of occupancy for Yellow-spotted Tree Frog is approximately 900,000 ha (Mahony, 1999). The project has the potential to reduce the area of terrestrial occupancy for the species by 0.05 ha. The project is considered to reduce habitat by less than 0.001%. While potentially associated PCTs occur within the project footprint, there would be no direct impacts within areas mapped within the indicative distribution (DCCEEW, 2022ae; DCCEEW, 2022af; DCCEEW, 2022agoE, 2022a) of these species. Changes to surface and ground water availability and quality have the potential to impact these species. The groundwater report (Technical Report 12 – Surface Water and Groundwater Impact Assessment) indicates that impacts to ground water will be negligible. Impacts to surface water will be mitigated through implementation of the following measures:

- Preparation of a Construction Environmental Management Plan (CEMP) to manage water quality impacts during construction of the project
- Preparation of Erosion and Sediment Control Plans (ESCPs) and Water Quality Monitoring Program (WQMP) within the Surface Water Management Plans (SWMPs), given erosion is identified as a key impact risk.
- Consideration of appropriately designed scour protection at new stormwater management points.
- The SWMP would include a combination of the following plans:
  - ESCPs
  - Water Quality Monitoring Program
  - Emergency Spill Plans
  - Unexpected Contaminants Finds Protocol
  - Acid Sulfate Soils Management Plan.

Given there would be no direct impact to aquatic habitat, the area of potential terrestrial habitat to be impacted is relatively small, and the fact that surface water impacts would be mitigated and temporal in nature, the project is considered unlikely to lead to a long-term decrease in the species or population of these species.

Reduce the area of occupancy of the species

The extent of impact within the project footprint on these species is 2.60 ha (2.65 ha including prescribed impacts) for Sloane's Froglet, 0.11 ha for Booroolong Frog and 0.05 ha for Yellow-spotted Tree Frog. The project would not directly impact potential aquatic habitats for these species and although the project has the potential to result in prescribed impacts to associated aquatic habitats, these would be temporary (mainly related to the construction of the project). It is considered unlikely that the scale of these prescribed impacts would render any potential habitats no longer suitable. For these reasons the project is considered unlikely to reduce the area of occupancy of these species.

Fragment an existing population into two or more populations

The project would not directly impact potential aquatic habitats for these species and although the project has the potential to result in direct and indirect impacts to potential terrestrial habitat, these would be localised and temporary. The Sloane's Froglet has potential habitat within the project footprint as it is known to occur in widely scattered sites in the floodplains of the Murray-Darling Basin and is known to utilise both natural and man-made waterbodies, including temporary puddles, for dispersal. Permanent streams with cobble banks, woody debris and fringing riparian vegetation found in the project footprint is considered potential habitat for Booroolong Frogs. Suitable permanent streams providing habitat for Yellow-spotted Tree Frogs occur within the project footprint. It is considered unlikely that the scale of any potential indirect impacts would be such that they would isolate any potential habitats in the long-term. The project is considered unlikely to fragment any existing populations into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for these species.

Given the project footprint supports a relatively small area of potential aquatic habitat only and that there were no records of these species found during the surveys, the habitat is considered unlikely to constitute habitat that is critical to the survival of the species.

Further, key potential indirect impact to these species that could occur would be the potential for temporary change to vegetation and hydrology around waterbodies that these species may potentially inhabit. These changes would be mitigated as per the proposed mitigation measures, would be temporal in nature and these areas would be expected to recover once the activities have been ceased post construction.

Disrupt the breeding cycle of a population

The key impacts that could occur would be the potential for hydrological and physical change in the waterbodies associated with construction work that could temporarily remove necessary vegetation for egg laying. The expected area to be impacted is 2.60 ha (2.65 ha including prescribed impacts) for Sloane's Froglet, 0.11 ha for Booroolong Frog and 0.05 ha for the Yellow-spotted Tree Frog. However, this is considered unlikely to occur given mitigation measures proposed to mitigate these impacts. The proposed waterway crossings are unlikely to disrupt the breeding cycle in the long-term, as there would be suitable habitats still in-tact in adjacent habitats, either side of the crossings.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of potential foraging and breeding habitat; 2.60 ha (2.65 ha including prescribed impacts) for Sloane's Froglet, 0.11 ha for the Booroolong Frog and 0.05 ha for the Yellow-spotted Tree Frog. The project is considered unlikely to isolate or decrease habitat to an extent that leads to a decline in the species due to the relatively small area of potential habitat that is variously distributed throughout the project footprint, to be impacted. Mitigation measures have been proposed to further mitigate the risk of indirect impacts. As such, the project is considered unlikely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species. The Sloane's Froglet is known to live and breed in disturbed areas such as farm dams. However, infestations of willow (*Salix* spp.) and Blackberry (*Rubus fruticosus*) has the potential to smother rocky habitat critical for the Booroolong Frog and modify flow regimes (TSSC, 2021a). Several mitigation measures have been proposed to mitigate the risk of indirect impacts such as weed invasion and changes to water quality. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan and SWMP within the CEMP.

Introduce disease that may cause the species to decline, or

There is a low potential for any instream plant or machinery used in crossing construction to transport chytridiomycosis, to which these species are susceptible, or *Myxosporean* parasites, to which, Yellow-spotted Tree Frogs are susceptible. Mitigation measures to control the spread of pathogens would be detailed in the Biodiversity Management Plan. It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

Interfere with the recovery of the species

There is no National Recovery Plan for Sloane's Froglet due to its small distribution, however the Conservation Advice (TSSC, 2019a) identifies the following strategies to achieve the recovery plan objectives:

- The primary conservation action for the Sloane's Froglet is to identify important extant populations and ensure suitable habitat for this species is being maintained and restored
- Habitat loss and disturbance
  - Implement a program ensuring suitable habitat is maintained and protected in areas supporting extant Sloane's Froglet populations and investigate options for enhancing the resilience of the species' current habitat to climate change.
  - Investigate opportunities to restore and enhance areas of degraded habitat.
  - Develop and implement translocation strategies for Sloane's Froglet to create additional populations whilst preventing the accidental spread of the amphibian chytrid fungus.
- Disease
  - Minimise the spread of the amphibian chytrid fungus by implementing suitable hygiene protocols to protect priority populations
  - Provide disease identification and prevention protocols (methods of handling, diagnostic keys, etc.) to researchers and land managers for use in the field.

- Manage priority sites to reduce the impacts of habitat destruction by feral species or livestock by using fencing and controlling feral pig numbers.
- Stakeholder Engagement
  - Interested nature conservation, land management and land holder groups could be engaged in conservation management activities, such as survey and monitoring, but should be made aware of the need to follow correct field practices and hygiene protocols to mitigate the risks of trampling and disease transmission. If necessary, use workshops to aid stakeholders in developing the skills and knowledge required to manage threats to this species while undertaking these activities.
  - Provide advice and information to land holders on the use of herbicides / biocides against pests and diseases in areas with threatened frogs.
  - Inform the public about the status and recovery efforts for the, eg, by providing information to visitors to the area and publicising the species through the media.

There is no National Recovery Plan for the Booroolong Frog due to its small distribution, however the Conservation Advice (TSSC, 2021a) identifies the following strategies to achieve the recovery plan objectives:

- Determine the species distribution in areas that have not been the focus of targeted surveys.
- Determine the taxonomic status of northern and southern Booroolong Frog populations and identify further genetic sub-division within these populations.
- Reduce the impact of known or perceived threats contributing to the ongoing decline of the Booroolong Frog.
- Determine population trends across the species range, and in areas subject to different management regimes.
- Identify the potential impacts of climate change and determine management responses to reduce these impacts.
- Identify other potentially threatening processes.
- Increase community awareness and involvement in the Booroolong Frog recovery program.
- Achieve the effective implementation of the recovery plan.

The National Recovery Plan (NSW NPWS, 2004) for the Yellow-spotted Tree Frog identifies the following objectives:

- Assess the current status of the species through community involvement and scientific research.
- Encourage the location and identification of any remaining extant populations in the wild.
- Increase protection of potential habitat through community awareness and involvement.
- Effectively protect and manage any extant populations which may be located in the future.
- Determine agents which contributed to the species' decline; and
- Resolve the taxonomic status of the New England and Southern Tableland forms of The Yellow-spotted Bell Frog.

The project would not impede or interfere with any of targeted recovery actions listed above for any of these species.

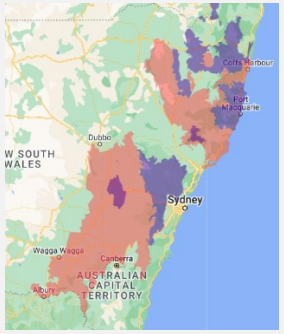
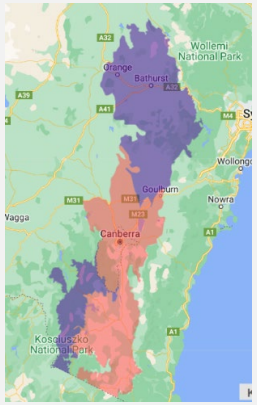
Conclusion

The project is considered unlikely to have a significant impact on Sloane's Froglet, Booroolong Frog, or Yellow-spotted Tree Frog due to the relatively small area of potential terrestrial habitat to be impacted, the

highly localised (and temporal nature) of impact adjacent to nominated waterway crossings, and implementation of proposed measures for mitigation of indirect impacts to water quality.

A summary of the NSW assessment bilateral requirements for endangered and critically endangered frog species is presented in Table A18- 14.

Table A18- 14: NSW assessment bilateral requirements for endangered to critically endangered frogs

NSW Assessment Bilateral requirements	Sloane's Froglet	Booroolong Frog	Yellow-spotted Tree Frog
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this community, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. Current distribution map for Sloane's Froglet (DCCEEW, 2022ae). The "Conservation Advice *Crinia sloanei* (Sloane's Froglet)" (TSSC, 2016) is the key conservation advice for this species. A recovery plan is not recommended because Sloane's Froglet is located in a relatively small area on the border between two jurisdictions and the Conservation Advice sufficiently outlines the priority research and conservation actions needed to support the recovery of this species (TSSC, 2016).	A description of habitat for this community, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. Current distribution map for Booroolong Frog (DCCEEW, 2022af).  The "National Recovery Plan for Booroolong Frog (*Litoria booroolongensis"*) is the key recovery plan for this species (OEH, 2012).	A description of habitat for this community, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. Current distribution map for Yellow-spotted Tree Frog (DCCEEW, 2022ag).  The "Yellow-spotted Bell Frog (*Litoria castanea*) and Peppered Tree Frog (*Litoria piperata*) recovery plan" is the key recovery plan for the species (OEH, 2001).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Threatened frog surveys completed within the project footprint were carried out in accordance with the Survey Guidelines for Australia's Threatened Frogs. EPBC Act survey guidelines 6.3 (Department of the Environment Water Heritage and the Arts, 2010). Habitat assessments were undertaken to assess the likelihood of threatened species of animal (those species known or predicted to occur within the locality from the literature and database review) occurring within the project footprint. Targeted surveys occurred when opportunities were available which included spotlighting transects when conditions were optimal (ie after moderate rainfall events).		

NSW Assessment Bilateral requirements	Sloane's Froglet	Booroolong Frog	Yellow-spotted Tree Frog
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The direct impact of the project on the Sloane's Froglet includes removal of approximately 2.60 ha of potential terrestrial habitat in the form of associated PCTs (2.65 ha including prescribed impacts). The area of occupancy for Sloane's Froglet is approximately 10,830,000 ha (AmphibiaWeb, 2023b). The project has the potential to reduce the area of terrestrial occupancy for the species by 2.60 ha (2.65 ha including prescribed impacts). The project is considered to reduce habitat by less than 0.001%. The construction process for the transmission line structures avoids direct impacts to major waterways. None of the waterways that have been mapped as within the species indicative distribution (DoE, 2022a) would be crossed by any proposed access tracks by waterway crossings.	The direct impacts of the project on the Booroolong Frog includes removal of approximately 0.11 ha of potential terrestrial habitat in the form of associated PCTs. The area of occupancy for Booroolong Frog is 1000 ha (AmphibiaWeb, 2023a). The project has the potential to reduce the area of terrestrial occupancy for the species by 2.04 ha. The project is considered to reduce habitat by 0.2%. The construction process for the transmission line structures avoids direct impacts to major waterways. None of the waterways that have been mapped as within the species indicative distribution (DoE, 2022a) would be crossed by any proposed access tracks by waterway crossings.	The direct impacts of the project on the Yellow-spotted Tree Frog includes removal of approximately 0.05 ha of potential terrestrial habitat in the form of prescribed impacts. The area of occupancy for Yellow-spotted Tree Frog is approximately 900,000 ha (Mahony, 1999). The project has the potential to reduce the area of terrestrial occupancy for the species by 0.05 ha. The project is considered to reduce habitat by less than 0.001%. The construction process for the transmission line structures avoids direct impacts to major waterways. None of the waterways that have been mapped as within the species indicative distribution (DoE, 2022a) would be crossed by any proposed access tracks by waterway crossings.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Sloane's Froglet: • Pre-construction surveys and micro siting of infrastructure/roads • Implementation of sediment, erosion, and hygiene controls • Development of a connectivity strategy, and Biodiversity Management Plan	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the Additional site-specific avoidance measures relevant to Booroolong Frog habitats identified as potentially at risk include: • Opportunities to avoid installing a waterway crossing should be considered during detailed design. • Where possible, design access tracks to avoid disturbance within 50 m of the top of bank of the waterway including riparian vegetation and waterway banks.	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Yellow-spotted Tree Frog: • Pre-construction surveys and micro siting of infrastructure/roads • Implementation of sediment, erosion, and hygiene controls • Development of a connectivity strategy, and Biodiversity Management Plan • A suitably qualified Ecologist should be engaged to conduct monitoring surveys

NSW Assessment Bilateral requirements	Sloane's Froglet	Booroolong Frog	Yellow-spotted Tree Frog
	• A suitably qualified Ecologist should be engaged to conduct monitoring surveys for the species at the crossing site and in downstream receiving environments. A monitoring plan would be developed as part of the BMP in consultation with the BCD.	If waterway crossings or access tracks within the stream habitat buffer/riparian zone at these locations cannot be avoided, additional site-specific avoidance measures include: • The crossing design should preference installing a single bridge structure spanning the waterway (no instream structures) to minimise the potential for hydrological change, erosion and sedimentation impacts of downstream environments. • A suitably qualified Ecologist should be engaged to complete a site inspection to guide micro-siting of the waterway crossing to avoid impacts to potential habitats or ecological features. • Develop site specific erosion and sedimentation control plans to ensure the potential for erosion and sedimentation impacts are minimised as far as practicable, including monitoring the success of erosion and sediment control measures. • A suitably qualified Ecologist should be engaged to monitoring surveys for the species at the crossing site and in downstream receiving environments. A monitoring plan would be developed as part of the BMP in consultation with the BCD.	for the species at the crossing site and in downstream receiving environments. A monitoring plan would be developed as part of the BMP in consultation with the BCD.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	While the project would result in residual impacts to potential terrestrial habitat for Sloane's Froglet (2.60 ha, 2.65 ha including prescribed impacts), no significant residual adverse impacts to the Sloane's Froglet are considered likely to occur. Proposed activities to	While the project would result in residual impacts to potential terrestrial habitat for Booroolong Frog (0.11 ha), no significant residual adverse impacts to the Booroolong Frog are considered likely to occur. Proposed activities to avoid and mitigate all potential direct and indirect impacts would be undertaken.	While the project would result in residual impacts to potential terrestrial habitat for Yellow-spotted Tree Frog (0.05 ha), no significant residual adverse impacts to the Yellow-spotted Tree Frog are considered likely to occur. Proposed activities to avoid and mitigate all potential direct and indirect impacts would be undertaken.

NSW Assessment Bilateral requirements	Sloane's Froglet	Booroolong Frog	Yellow-spotted Tree Frog
	avoid and mitigate all potential direct and indirect impacts would be undertaken.		
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Not required. As per the SIA, residual impacts to these species were considered unlikely to be significant. Details of offset requirements and obligations for these species as a result of residual impacts due to the project are addressed in Section 14 of the BDAR. Impacts to all these species would be offset under the NSW BOS.		
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.		
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.		
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. as detailed above, all residual impacts to the species would be offset under the NSW BOS and, as per the SIA, significant residual impacts to these species are considered unlikely. Therefore, application of the EPBC Act Environmental Offset Policy is not required.		

2.3.2 Regent Honeyeater (*Anthochaera phrygia*)

The Regent Honeyeater is listed as Critically Endangered under the EPBC Act and BC Act.

Description

The Regent Honeyeater is a predominantly black and yellow, medium-sized honeyeater with a sturdy, curved bill. Its head, neck, throat, upper breast, and bill are black, while its back and lower breast are a pale yellow to white colour with a black scalloped pattern. The lower belly is a pure pale yellow and the wing and tail feathers have broad lemon-yellow edges. There is a characteristic patch of warty pink or cream facial skin around the eye (DCCEEW, 2022m). Adults weigh 35-50 grams, are 20-24 cm long and have a wingspan of 30 cm. Males are larger, darker and have a bigger patch of bare facial skin, however the sexes appear relatively similar. They are most vocal in non-breeding seasons and have a soft metallic bell-like song (DPE, 2022a).

The Regent Honeyeater has a fragmented distribution extending from south-east QLD, through to NSW, ACT, and central Victoria. It is endemic to mainland south-eastern Australia and mainly inhabits the temperate woodlands and open forests of the Inland Slopes (DCCEEW, 2022m). Currently, there are three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW, their distribution is mainly confined to the two main breeding areas and surrounding fragmented woodlands, though flocks occasionally converge on flowering coastal woodland and forests (DPE, 2022a). The indicative habitat distribution mapping for the species includes the entirety of the project footprint (DCCEEW, 2022m) and overall, the species is considered likely to occur within the project footprint.

Habitat commonly associated with the Regent Honeyeater includes Box-Ironbark eucalypt woodland and dry sclerophyll forest in areas of low to moderate relief on moist, fertile soils. It also uses a range of other habitats, such as remnant vegetation patches, and is known to utilise lowland coastal forests in periods of drought (DCCEEW, 2022m; DPE, 2022a). The species is considered a generalist forager; however, it prefers woodlands with many mature trees, a high canopy cover and an abundance of mistletoes. It predominantly feeds on a small number of eucalypts that produce high volumes of nectar, including *Eucalyptus sideroxylon, E. melliodora, E. albans, E. robusta* and *Corymbia maculata*, with a preference for mature forage trees. The nectar and fruit from mistletoes are also often utilised. When nectar is scarce, lerp and honeydew can comprise a large portion diet and are important in the diet of nestlings (DCCEEW, 2022m; DPE, 2022a).

The species breeds between July and January in Box-Ironbark and other temperate woodlands, as well as riparian vegetation dominated by Casuarina spp. It usually nests in horizontal branches or forks, in tall mature eucalyptus and *Casuarina* spp., or mistletoe haustoria (DCCEEW, 2022m; DPE, 2022a).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for Regent Honeyeater are as follows:

- Approved conservation advice for *Anthochaera phrygia* Regent Honeyeater, in effect under the EPBC Act from 8 July 2015.
- National Recovery Plan for the Regent Honeyeater (*Anthochaera Phrygia*), in effect under the EPBC Act from 04 May 2016

- *Threat abatement plan for competition and land degradation by rabbits*, is relevant to the Regent Honeyeater. In effect under the EPBC Act from 07 January 2017.

Relevant survey guidelines for this species include:

- Survey Guidelines for Australia's Threatened Birds. EPBC Act survey guidelines 6.2 (DEWHA, 2010b).

Specific Impacts

The project footprint is geographically removed from, and would have no impact on, the Bundarra-Barraba, Capertee Valley or Hunter Valley Regent Honeyeater key breeding areas. Hence, no impact on breeding habitat of the Regent Honeyeater is expected. Within the project footprint, the Regent Honeyeater has a moderate likelihood of occurrence as a nomadic forager in all IBRA subregions of the project footprint due to the presence of suitable myrtaceous and lerp foraging resources. The project footprint would result in the loss of approximately 149.34 ha (12%) of potential foraging habitat for the species.

PCTs present in the project footprint that are associated with the Regent Honeyeater are PCT 5, 266, 268, 277, 278, 280, 283, 285, 287, 288, 290, 295, 296, 297, 299, 300, 306, 314, 322, 343, 351, 352, 638, 679, 727, 731, 870, 952, 953, 1093, 1097, 1107, 1150, 1151, 1191, 1196, 1330 and 9997.

Significant impact criteria

An action is likely to have a significant impact on a Critically Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population

The Regent Honeyeater has a fragmented distribution extending from south-east QLD, through to NSW, ACT and to central Victoria. In NSW, their distribution is mainly confined to the two main breeding areas in the Capertee Valley and the Bundarra-Barraba region and surrounding fragmented woodlands, and there are approximately 350-400 mature individuals left in the wild (DoE, 2016b; DPE, 2022a).

No important habitat for the Regent Honeyeater, as identified in the Important Habitat Mapping for the Species (DPE, 2021), occurs within the project footprint and as such, under the BAM, no targeted surveys were required for this species. Important habitat maps identify areas that are considered essential to support critical life stages of the species including breeding areas or locations important for foraging/over-wintering for migratory species. For the Regent Honeyeater this includes the key breeding areas in the Mudgee-Wollar, Capertee Valley and Bundarra-Barraba regions. However, potentially suitable foraging habitat was found in all IBRA subregions and associated PCTs impacted by the project during vegetation and habitat mapping.

The Regent Honeyeater is highly mobile and is considered to have a moderate likelihood of occurrence within the project footprint as a nomadic forager. The impacts of the project on the species include the removal of approximately 149.34 ha of potential foraging and refuge habitat.

The Regent Honeyeater has not been recorded within the project footprint. However, there are 35 records of the species within 20 kilometres of the project footprint, with most distributed east of the project footprint, in close proximity to Canberra and Lake George. While there is potential for the species to use areas of potential foraging habitat within the project footprint, given key areas of foraging and breeding habitat will not be impacted, it is considered unlikely that the project would lead to a long-term decrease in the size of the population.

Reduce the area of occupancy of the species

There are 35 records of the species within 20 kilometres of the project footprint, with most distributed east of the project footprint, in close proximity to Canberra and Lake George. There are some scattered records around Wagga Wagga, Tarcutta, Bondo State Forest, Goulburn, and Wee Jasper, indicating that the species occurs across the entire project footprint during annual migrations. However, based on the patchy distribution and low number of Regent Honeyeater records across the entire project footprint, it is likely that the foraging resources and refugia within the project footprint are considered opportunistic. However, habitat impacted by the project is considered opportunistic foraging habitat only (which is relatively widespread in the region) and no important habitat (as described above) for the Regent Honeyeater occurs within the project footprint. Therefore, a reduction in the area of occupancy of the Regent Honeyeater as a result of the project is considered unlikely.

Fragment an existing population into two or more populations

The Regent Honeyeater is a highly mobile, nomadic species, and the project would result in the construction of transmission lines and associated infrastructure that would be highly permeable. These developments would not lead to any significant barriers that would limit the species use of potential foraging habitat within or outside of the project footprint. A connectivity strategy would also be implemented to mitigate potential habitat fragmentation impacts. Therefore, the fragmentation of an existing population into two or more populations as a result of the project is considered unlikely.

Adversely affect habitat critical to the survival of a species

The Recovery Plan of the Regent Honeyeater defines habitat critical for the survival of the species as any breeding or foraging areas where the species is likely to occur. The species is considered to have a moderate likelihood of occurrence within the project footprint based on the presence of suitable foraging resources. There are 35 records of the species within 20 kilometres of the project footprint, with most distributed east of the project footprint, in close proximity to Canberra and Lake George. There are some scattered records around Wagga Wagga, Tarcutta, Bondo State Forest, Goulburn, and Wee Jasper, indicating that the species occurs across the entire project footprint during annual migrations. However, based on the patchy distribution and low number of Regent Honeyeater records across the entire project footprint, it is likely that the foraging resources and refugia within the project footprint are considered opportunistic.

While there is the possibility for the species to use areas of potential foraging habitat within the project footprint, given that key areas of foraging and breeding habitat (as identified in the Important Habitat Map for the species) would not be impacted, it is considered unlikely that the project would affect habitat critical to the survival of the species.

Disrupt the breeding cycle of a population

The project would not affect breeding habitat/sites for this species which are known to occur in the Capertee Valley and the Bundarra-Barraba region, NSW. It is therefore considered unlikely that the project would disrupt the breeding cycle of the Regent Honeyeater population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 149.34 ha of potential foraging and refuge habitat. The species is not reliant on the habitat within the project footprint for breeding, and their nomadic nature means that they move large distances across their range in search of seasonal foraging resources. It is unknown if they use the resources within the project footprint but given their dependence on widely distributed resources throughout their range, it is possible that the project may impact potential foraging habitat such that the species may decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

The Regent Honeyeater relies on nectar from a few key tree species which predisposes them to resource competition. Noisy Miners (*Manorina melanocephala*) and Honeybees (*Apis mellifera*) are listed as a Key Threatening Process and a Threatening Process for nectivorous birds, respectively (DE, 2016; Saunders and Tzaros, 2011). Noisy Miners are known to aggressively exclude Regent Honeyeaters.

Clearance of vegetation and creation of new edges can facilitate the incursion of Noisy Miners into habitat as Noisy Miners tend to occur on the edges of cleared and vegetated areas.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that could affect forage species of the Regent Honeyeater, this risk would be mitigated through hygiene protocols to be implemented via the Biodiversity Management Plan to be prepared for the project. It is therefore considered unlikely that the project would introduce a disease that may cause the Regent Honeyeater to decline.

Interfere with the recovery of the species

Mitigation and avoidance measures would be refined and implemented where practicable to reduce the impact of the project on suitable foraging resources.

As suitable foraging and refuge habitat would be unavoidably cleared as a result of the project, the project therefore has the potential to interfere with the recovery of the species.

Conclusion

In line with the above findings, the project is considered to have the potential to have a significant impact on the Regent Honeyeater under the precautionary principle. A summary of the NSW assessment bilateral requirements for Regent Honeyeater is presented in Table A18- 15.

Table A18- 15: NSW assessment bilateral requirements for Regent Honeyeater

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of suitable breeding and foraging habitat for the Regent Honeyeater, habitat critical for survival and relevant Commonwealth documents are provided above. A map showing its modelled distribution is provided in below. Indicative distribution map of the likely to occur and may occur distributions of the Regent Honeyeater *Anthochaera phrygia*) (DCCEEW, 2022m; SPRAT 2022).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were undertaken in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA, 2010b). These included diurnal bird surveys across the project footprint in areas with an abundance of flowering eucalypts. Detailed methods, survey effort and survey timing, can be found in Section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Regent Honeyeater has a fragmented distribution extending from south-east QLD, through to NSW, ACT and to central Victoria (see distribution map above). In NSW, their distribution is mainly confined to the two main breeding areas and surrounding fragmented woodlands, and there are approximately 350-400 mature individuals left in the wild (DE 2016; DPE, 2022a). The Regent Honeyeater is highly mobile and has a moderate likelihood of occurrence within the project footprint as a nomadic forager. The impacts of the project footprint on the species include the removal of approximately 149.34 ha of potential foraging habitat. The area of occupancy for Regent Honeyeater cannot be defined due to their nomadic nature. Therefore, the extent of impact on habitat is unknown on a national scale.

Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Regent Honeyeater:
	• Micro-siting during detailed design and pre-clearance surveys to avoid and minimise the clearing of:
	  ○ vegetation communities associated with the Regent Honeyeater, particularly box-ironbark eucalypt woodland and dry sclerophyll forest occurring on moist, fertile soils.
	  ○ mature forage trees, in particular *E. sideroxylon, E. melliodora, E. albans, and C. maculata.*
	  ○ riparian vegetation dominated by *Casuarina* spp.
	  ○ habitat containing mistletoes.

Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	Important breeding habitat (important mapped areas) would not be impacted by the project. However, as detailed above in the SIA above, it is considered that the removal of a relatively large area of potential foraging habitat has the potential to have a significant residual impact on the species.
A description of any offsets proposed to address residual adverse significant	Potential residual impacts to the Regent Honeyeater are considered likely to be significant under the precautionary principle as detailed above.

NSW Assessment Bilateral requirements	
impacts and how these offsets will be established	Residual impacts to the Regent Honeyeater would be offset under the NSW BOS through impacts to potential habitat (ecosystem credits). The species was not identified as a species credit species under the BAM (DPIE, 2020a) as the project does not impact any habitat as mapped on the Important Habitat Map for the species. Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Regent Honeyeater as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species' potential habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.3 Gang-gang Cockatoo (*Callocephalon fimbriatum*)

The Gang-gang Cockatoo is listed as Endangered under the EPBC Act and Vulnerable under the BC Act.

Description

The Gang-gang Cockatoo is small and stocky, being 32-36cm in length and 230-334 grams in weight, with a wingspan of 20-26 cm. Gang-gang cockatoos are primarily slate-grey in colour with broad wings and short tails. However, adult males have a scarlet-coloured head and wispy, filamentous crest that curls forward while adult females are entirely slate-grey in colour (DAWE, 2022a). Juveniles are smaller and similar in appearance to females; however, their colouring appears washed green, particularly on their underparts and upper wing (DAWE, 2022a).

Gang-gang Cockatoos are distributed in south Victoria, and south to central-eastern NSW and the ACT. They are adapted to cooler climates and are mostly found at higher elevations and more southern latitudes. In NSW, they are restricted to the lower Hunter and Northern Blue Mountains to the Southwestern slopes, contiguous with the Victorian population (DAWE, 2022a; NSW SC, 2008). They are rare at the extremities of its range, including west of Mudgee and as far north Coffs Harbour, with north records thought to be escaped captive birds. A population on King Island has been extirpated (DAWE, 2022a; NSW SC, 2008).

Gang-gang Cockatoos occur in temperate eucalypt forest and woodland habitats and are altitudinal migrants. However, overlapping of winter and summer ranges is common. During summer, the species primarily occurs in mature, wet sclerophyll forests dominated by eucalypts, with the highest density of birds occurring in assemblages with dense, shrubby acacia and banksia (DAWE, 2022a). However, it has also been recorded in more open eucalypt assemblages, subalpine snow gum woodland, temperate rainforest

and regenerating forests (DAWE, 2022a). During winter, Gang-gang Cockatoos are primarily found in open eucalypt assemblages at lower, drier altitudes. They have also been observed in the suburban areas of cities, assemblages of *Eucalyptus camaldulensis*, dense coastal thickets of *Leptopermum* and *Casurina,* as well as healthland (DAWE, 2022a). Gang-gang Cockatoos prefer to nest and breed in old growth forest, in suitable tree hollows (> 10 cm in diameter) which are essential to their breeding habitat (DAWE, 2022a).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Gang-gang Cockatoo, in effect under the EPBC Act from 2 March 2022.
- A Recovery Plan is required, the species has a large range throughout southeast Australia and requires a complex suite of recovery and threat abatement actions across multiple state boundaries and involving a wide variety of land managers and other stakeholders (16 February 2022).

Specific Impacts

The Gang-gang Cockatoo is known to occur in all IBRA subregions within the project footprint, with multiple species sightings and suitable foraging and potential nesting habitat recorded. Breeding pairs were identified in the Bungonia IBRA subregion, with breeding habitat likely nearby. The project would result in the removal of 423.78 ha (17%) of foraging habitat and potential breeding habitat used by this species and has the potential to cause direct impacts to the species via injury or mortality during clearing and construction work.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The Gang-gang Cockatoo was recorded within the project footprint in all IBRA subregions being impacted by the project. There is also potential breeding habitat present within the project footprint in all IBRA subregions, and breeding pairs were identified in the Bungonia IBRA subregion.

Approximately 423.78 ha of foraging and breeding habitat is present within the project footprint, and the project would implement avoidance and mitigation measures to minimise impact on this habitat. However, due to the extremely small number of suitable hollow-bearing trees remaining in the environment, the removal of any suitable hollow-bearing trees as a result of the project has the potential to lead to a long-term decrease in the size of the Gang-gang Cockatoo population.

Reduce the area of occupancy of the species

The project has the potential to reduce the area of occupancy of the Gang-gang Cockatoo via the removal of suitable nesting hollows within the project footprint and the removal of up to 423.78 ha of foraging habitat across its range.

Fragment an existing population into two or more populations

Gang-gang Cockatoo is a highly mobile species, and the project would result in the construction of transmission lines and associated infrastructure that would be highly permeable. These developments would not lead to any significant barriers that would limit the species use of potential foraging and breeding habitat within or outside of the project footprint. A connectivity strategy would also be implemented to mitigate any impacts of habitat fragmentation on this species. Therefore, the fragmentation of an existing important population into two or more populations as a result of the project is considered unlikely.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species. However, Conservation Advice for *Callocephalon fimbriatum* (Gang-gang Cockatoo) (DAWE, 2022a) identifies habitat critical to the survival of the species as:

- All foraging habitat during both the breeding and non-breeding season, excluding exotic vegetation within urban and suburban areas.
- Stands of suitable hollow bearing trees, these include known or potentially suitable hollows, with chambers that are generally around 20 cm in floor diameter, around 50.5 cm deep (range 22–90 cm) and occur between around 7.5 m (range 5–9.4 m) above the ground.
- Stands of trees within or adjacent to known breeding areas, that are likely to become hollow bearing in future years.

The project would result in the clearing of known foraging and potential breeding habitat for the species. Following the above definitions, the project has the potential to adversely affect habitat critical to the survival of the Gang-gang Cockatoo.

Disrupt the breeding cycle of a population

The project has the potential to disrupt the breeding cycle of Gang-gang Cockatoos via the removal of suitable hollows that are used or could potentially be used by the species. As stated above, the removal of any suitable hollows or tree stands identified as critical habitat has the potential to disrupt the breeding cycle of this species. The project therefore has the potential to disrupt the breeding cycle of the Gang-gang Cockatoo.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The removal of suitable hollow-bearing trees within the project footprint and 423.78 ha of known foraging and potential breeding habitat has the potential to decrease the availability of habitat to such an extent that the species may decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

Species which compete with Gang-gang Cockatoos for nesting hollows include feral European Honeybees (*Apis mellifera*), Common Brushtail Possums (*Trichosurus vulpecula*), and other bird species such as Rainbow Lorikeets (*Trichoglossus moluccanus*), Eastern Rosellas (*Platycercus eximius*), Galahs (*Eolophus roseicapilla*) and Common Mynas (*Acridotheres tristis*). Over-abundant Noisy Miners (*Manorina*

melanocephala) and Bell Miners (*Manorina melanophrys*) are also known to aggressively exclude the Gang-gang Cockatoo from woodland habitat (DAWE, 2022a).

The project would result in the removal of suitable hollow bearing trees within known foraging and potential breeding habitat that could be utilised for breeding. Due to the extremely limited number of suitable hollows remaining in the landscape, the loss of these nest sites may result in increased competition with invasive hollow-using species which could be harmful to the Gang-gang Cockatoo.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species, this risk would be mitigated through hygiene protocols throughout the development and management of the project and detailed within the Biodiversity Management Plan.

The Gang-gang Cockatoo may also be affected by Psittacine Beak and Feather Disease (PBFD), a deadly disease that naturally occurs in parrot populations. The disease is prevalent in parrots that are injured, rehabilitated and released back into the wild, where they could interact with the Gang-gang Cockatoo. The loss of suitable hollow bearing trees as a result of the project is likely to increase competition for suitable hollow bearing trees and may result in the increased likelihood of PBFD infection in this species. Therefore, while the project is unlikely to introduce disease that may lead to species decline, it may increase the exposure of these animals to disease.

Interfere with the recovery of the species

There are no made or adopted recovery plans for this species, although the SPRAT database indicates a Recovery Plan is required. The Gang-gang Cockatoo has been assigned a landscape-managed species by the Saving Our Species program, which suggests the following management practices at a site, regional and state scale:

- Protect known or potential remnant species' habitat, particularly tall, wet forest and dry sclerophyll vegetation communities consisting of large trees with hollows >10 cm in diameter.
- Restore species' habitat in strategic locations close to known habitat and movement corridors, using appropriate local tree, shrub and ground cover species.
- Minimise loss of hollow bearing trees and stags when carrying out prescribed burns.

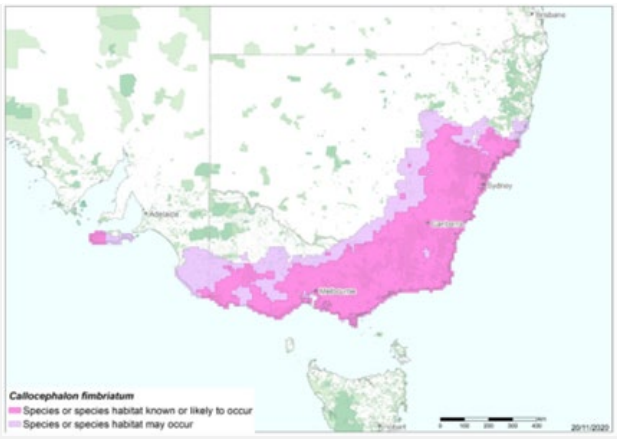
As suitable foraging and potential breeding habitat would be cleared as a result of the project, the project is considered to have the potential to interfere with the recovery of the species.

Conclusion

In line with the above findings, the project is considered likely to have a significant impact on the Gang-gang Cockatoo. A summary of the NSW assessment bilateral requirements for Gang-gang Cockatoo is presented in Table A18- 16.

Table A18- 16: NSW assessment bilateral requirements for Gang-gang Cockatoo

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with	A description of suitable breeding and foraging habitat for the Gang-gang Cockatoo, habitat critical for survival and relevant Commonwealth documents are provided above. A map showing its modelled distribution is provided below, and a map showing the field verified locations of suitable foraging, nesting and breeding habitat within the project footprint are provided in Attachment 1.

NSW Assessment Bilateral requirements	
consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Indicative distribution map of the known, likely to occur and may occur distributions of the Gang-gang cockatoo *Callocephalon fimbriatum* (DAWE, 2022a).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were undertaken in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA, 2010b). These included diurnal bird surveys across the project footprint in areas with an abundance of flowering eucalypts. Detailed methods, survey effort and survey timing, can be found in section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Gang-gang Cockatoo is known to occur within all IBRA subregions of the project footprint. The direct impacts of the project on the species include the removal of approximately 423.78 ha of foraging and potential breeding habitat. The national distribution of the Gang-gang Cockatoo extends from southern Victoria through to south and central eastern New South Wales (see distribution map above). The approximate population of mature individuals in the wild is 25,300 (range 17,600 – 35,200) (Cameron *et al.,* 2021).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Gang-gang Cockatoo: • Micro-siting during detailed design and pre-clearance surveys to: ▪ avoid and mitigate the clearing of foraging and potential breeding habitat. ▪ avoid and mitigate the clearing of suitable hollow bearing trees that could potentially be used for nesting (through pre-clearance surveys and micro siting). • Development of a connectivity strategy.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	After the proposed activities are undertaken to avoid and mitigate these impacts, there is still likely to be significant residual adverse impacts on the Gang-gang Cockatoo, given the scale of the habitat loss as a result of the project.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Gang-gang Cockatoo are considered likely to be significant as detailed above. Residual impacts to the Gang-gang Cockatoo would be offset under the NSW BOS (species credit requirement). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for Gang-gang Cockatoo as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.

NSW Assessment Bilateral requirements	
	The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.4 Glossy Black-Cockatoo (*Calyptorhynchus lathami*)

The Glossy Black-Cockatoo is listed as Vulnerable under the EPBC Act and BC Act.

Description

Glossy Black-Cockatoos are the smallest of the Black Cockatoos (*Calyptorhynchus* and *Zanda* spp.), with a body length of around 48 cm and weight of 420 g. Plumage is mostly dull black, with a blackish-brown head, an inconspicuous crest, and a broad bulbous bill. Adult males have bright red panels in the tail. Adult females have yellowish-red panels in the tail, and variable yellow patches on their heads. Juveniles are similar to adult females but with spotted pale-yellow patches on their heads, lower breast, belly and flanks, and barred undertail (DCCEEW, 2022b).

South-eastern Glossy Black Cockatoos are uncommon but widespread. They can be found from Mitchell, Queensland, through eastern New South Wales to East Gippsland, Victoria. Their distribution is continuous through the forested parts of the Great Dividing Range but becomes more scattered inland, to as far west as the Riverina in New South Wales (DCCEEW, 2022b).

South-eastern Glossy Black Cockatoos feed almost exclusively on the seeds of she oaks (*Allocasuarina spp*. and *Casuarina spp.*), usually relying on one or two species within a region. This preference may explain the patchy distribution of the subspecies in parts of its range. Alongside the already narrow dietary requirement, the birds also show strong preference to individual feed trees and will not feed on many other proximate trees of the same tree species. South-eastern Glossy Black Cockatoos are hollow nesters, utilising large hollows in both living and dead eucalypt trees. As a guide, potential nest hollows for the subspecies have the following traits (DCCEEW, 2022b):

- Less than 8 m above ground
- Located in branches >30 cm in diameter
- Branch or stem no more than 45o from vertical
- Minimum entrance diameter of >15 cm.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- The SPRAT database indicates that there is an Approved conservation advice for the Glossy Black-Cockatoo (DCCEEW, 2022b), in effect under the EPBC Act from 10 August 2022.
- The SPRAT database indicates that there is no Recovery Plan for the Glossy Black-cockatoo. A Recovery Plan is required, the species has a large range throughout southeast Australia and requires a complex suite of recovery actions across multiple state boundaries and involving a wide variety of land managers and other stakeholders (24 July 2022).

The SPRAT database indicates that the Glossy Black-Cockatoo is not referred to in any Threat Abatement Plans

There are no relevant Commonwealth survey guidelines for this species.

Specific Impacts

The Glossy Black-Cockatoo is known to occur within the Bungonia IBRA subregion, with multiple species sightings during surveys and suitable foraging and potential nesting habitat recorded. It also has a high likelihood of occurrence in the Inland Slopes IBRA subregion in intact remnants, with moderate to high connectivity. The project would result in the removal of 19.31 ha (6%) of known foraging habitat and potential breeding habitat used by this species, and 22.98 ha (7%) of potential foraging and breeding habitat.

Significant impact criteria

An action is likely to have a significant impact on Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

The Glossy Black-Cockatoo was recorded within the project footprint of the Bungonia IBRA subregion impacted by the project. There is also potential foraging and breeding habitat present within the Inland Slopes IBRA subregion portion of the project footprint. Approximately 19.31 ha of known foraging and potential breeding habitat, and 22.98 ha of potential foraging and breeding habitat within the project footprint will be removed (total of 42.29 ha). The project would implement avoidance and mitigation measures to minimise impact on this habitat. However, due to the extremely small number of suitable hollow-bearing trees remaining in the environment and the exclusive nature of their feed trees within a region, the removal of any suitable trees as a result of the project has the potential to lead to a long-term decrease in the size of the Glossy Black-Cockatoo population.

Reduce the area of occupancy of an important population

The project has the potential to reduce the area of occupancy of an important population of Glossy Black-Cockatoo via the removal of suitable nesting hollows within the project footprint.

Fragment an existing important population into two or more populations

Glossy Black-Cockatoo is a highly mobile species, and the project would result in the construction of transmission lines and associated infrastructure that would be highly permeable. These developments would not lead to any significant barriers that would limit the species use of potential foraging and

breeding habitat within or outside of the project footprint. A connectivity strategy would also be implemented to mitigate any impacts of habitat fragmentation on this species. Therefore, the fragmentation of an existing important population into two or more populations as a result of the project is considered unlikely.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species. However, Conservation Advice (DCCEEW, 2022b) for the Glossy Black-cockatoo identifies habitat critical to the survival of the species as habitat:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development
- for the reintroduction of populations or recovery of the species or ecological community.

The project would result in the clearing of known foraging and breeding habitat for the species. Following the above definitions, the project has the potential to adversely affect habitat critical to the survival of the Glossy Black-Cockatoo.

Disrupt the breeding cycle of an important population

The project has the potential to disrupt the breeding cycle of Glossy Black-Cockatoos via the removal of suitable nesting hollows and foraging resources. As stated above, the removal of any suitable hollows or tree stands identified as critical habitat has the potential to disrupt the breeding cycle of this species. The project therefore has the potential to disrupt the breeding cycle of the Glossy Black-Cockatoo.

Modify, destroy, remove, or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 19.31 ha of known habitat and 22.98 ha of potential habitat within the project footprint. The removal of suitable hollow-bearing trees within the project footprint in known foraging and potential breeding habitat coupled with the species' exclusive requirement for one or two feed trees in a region, has the potential to decrease the availability of habitat to such that the species may decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

Grazing by rabbits (*Oryctolagus cuniculus*), other feral herbivores and livestock may cause a decline in extent and productivity of foraging habitat of the Glossy Black-Cockatoo and may also impede the regeneration ability of native vegetation, including feed tree species. Vegetation clearing and increased habitat fragmentation may increase grazing by these species (DCCEEW, 2022b).

Nest predation by native species such as the Common Brushtail Possums may be a threat. The project may result in the removal of suitable hollow-bearing trees within known and potential habitats. Due to the scarcity of suitable hollows remaining in the landscape, the loss of these nest sites may result in increased competition with invasive hollow-using species which could be harmful to the Glossy Black-Cockatoo.

These invasive and potentially harmful exotic and native species are already well established throughout the landscape and the project footprint generally. As such the project is considered unlikely to further result in invasive species that may be harmful to the Glossy Black-Cockatoo, becoming established.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species, this risk would be mitigated through implementation of hygiene protocols throughout the development and management of the project.

The Glossy Black-Cockatoo may be at risk of Psittacine Beak and Feather Disease (PBFD), a deadly disease that naturally occurs in parrot populations. The disease is prevalent in parrots that are injured, rehabilitated and released back into the wild, which could interact with the Glossy Black-Cockatoo (DCCEEW, 2022b). The loss of suitable hollow bearing trees as a result of the project is likely to increase competition of suitable hollow bearing trees and may result in the increased the likelihood of PBFD infection in this species. Therefore while the project is unlikely to introduce the disease that may lead to species decline, it may increase exposure of these animals to the disease.

Interfere substantially with the recovery of the species

The Conservation Advice (DCCEEW, 2022b) for the species identifies the following strategies to achieve the recovery objectives:

- Clearing of native vegetation/timber harvesting and habitat fragmentation
  - Protect, restore and enhance the quality of known suitable habitat and increase the extent of habitat (both breeding and foraging) for south-eastern glossy black cockatoo across the subspecies' range (both current and future) to maintain viability in response to threats, including climate change.
  - Establish appropriate buffer zones (eg, 1 km) of native forests or woodlands around important nesting areas to minimise incursions by competitors.
  - Protect large old trees and smaller trees that contain large hollows, including those affected by fires. Ensure the recruitment of large old trees by retaining medium-sized trees, facilitating regeneration, and undertaking replanting.
  - Maintain connectivity within and between regions:
  - At a local scale, ensure that birds can move safely between food, water and roosting resources via corridors that provide cover in the form of woodland or forest vegetation
  - Identify regional corridors that connect inland populations with those along the Great Dividing Range and the coast.
  - Enhance or restore regional corridors through strategic revegetation and other works that ensure the availability of food, shelter and water resources.
  - Ensure the year-round availability of surface water in close proximity to foraging and nesting habitat. Where necessary, install or maintain artificial water recourses to ensure continued access to food and nest sites during periods when natural surface water is absent.
  - Maintain vegetation in proximity to water points, including the presence of smaller trees immediately adjacent to the water's edge, to provide cover and resting place for drinking birds.
  - Identify important populations and engage stakeholders in the development and implementation of a local area management plan (a map-based document detailing the works necessary to secure the long-term viability of the population). Undertake baseline studies to support the preparation of these management plans.

    - Develop or improve forestry policies across the range of the subspecies that promote the retention and recruitment of old hollow-bearing trees and other important habitat for the south-eastern glossy black cockatoo.
    - Promote and encourage revegetation programs or groups to include a *Allocasuarina/Casuarina* mix in their planting, where appropriate.
- Inappropriate fire regimes
    - Provide fire and land managers with specific advice to support decision making in wildfire prevention, preparation, response, and recovery. Develop a landscape-scale fire management strategy which minimises the risk of extensive wildfire, whilst considering the ecological needs of the subspecies. For example:
    - Ensure fire suppression strategies also consider impacts on the population or its habitat.
    - Fire management activities to protect key sites and those identified as most at risk from wildfires should be prioritised.
    - Protect unburnt areas within or adjacent to recently burnt ground that may provide refuge, from planned back burns, clearing and other disturbance until the burnt areas have recovered sufficiently to support the subspecies once again.
    - Apply adaptive management to inform future fire management plans and actions.
    - Identify appropriate fire regimes and management practices for feeding and breeding habitat, including under future fire risk scenarios due to climate change.
    - Implement appropriate fire planning and land management for conservation reserves and other public land with feeding and breeding habitat.
    - Review proposed fire management plans at an appropriate interval to ensure remaining suitable habitat for the subspecies is protected.
- Competition for nest hollows
    - Identify sites where hollows are limiting and develop and implement strategies to increase hollow availability that have clear objectives and include monitoring, maintenance, and reporting requirements. Actions include:
    - Nest box and/or other artificial/augmented hollow installation
    - The humane control of introduced species
    - The protection of trees having the potential to develop hollows.

The removal of known and potential habitat including breeding hollows may impede or interfere with targeted recovery actions directed at minimising habitat clearance and increase competition for nest hollows.

Conclusion

In line with the above findings, the project is likely to have a significant impact on the Glossy Black-Cockatoo. A summary of the NSW assessment bilateral requirements for Glossy Black-Cockatoo is presented in Table A18- 17.

Table A18- 17: NSW assessment bilateral requirements for Glossy Black-cockatoo

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 A description of suitable breeding and foraging habitat for the Glossy Black-Cockatoo, habitat critical for survival and relevant Commonwealth documents are provided above. A map showing its modelled distribution is provided above, and a map showing the field verified locations of suitable foraging, nesting and breeding habitat within the project footprint are provided in Attachment 1.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were undertaken in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA, 2010b). These included diurnal bird surveys across the project footprint in areas with an abundance of flowering eucalypts. Detailed methods, survey effort and survey timing, can be found in Section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Glossy Black-Cockatoo is known to occur within the project footprint of the Bungonia subregion portion of the project footprint. It also has a high likelihood of occurrence in the Inland Slopes IBRA subregion in intact remnants, with moderate to high connectivity. The direct impacts of the project on the species include the removal of approximately 19.31 ha of known habitat and 22.98 ha of potential habitat (total impact 42.29 ha). The area of occupancy of the Glossy Black-Cockatoo is estimated at 4,000,000 ha and the national distribution of this species extends from Victoria, along the south-east coast of NSW, through to the south-east coast of Queensland (see distribution map above). The project would impact 0.001 % of Glossy Black-Cockatoo habitat on a national scale.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Glossy Black-cockatoo: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the clearing of foraging and potential breeding habitat. ▪ Avoid and mitigate the clearing of suitable hollow bearing trees that could potentially be used for nesting (through pre-clearance surveys and micro siting). • Development of a connectivity strategy.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	As detailed in the SIA above, the project is considered likely to have a significant impact on the Glossy Black-Cockatoo. The project would result in the removal of 42.29 ha of known and potential habitat.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual impacts to the Glossy Black-Cockatoo are considered likely to be significant as detailed above. Residual impacts to Glossy Black-Cockatoo would be offset under the NSW BOS (species credit requirement). Offsets would be established/satisfied as detailed

NSW Assessment Bilateral requirements	
	below. Details of offset requirements and obligations for Glossy Black-Cockatoo because of residual impacts of the project are addressed in Section 14 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species known and potential habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.5 Painted Honeyeater (*Grantiella picta*)

The Painted Honeyeater is listed as Vulnerable under the EPBC Act and the BC Act.

Description

The Painted Honeyeater is a small to medium honeyeater. It has black upperparts, white underparts, black spots on its flanks and yellow edges to the flight and tail feathers. The bill is a deep pink and the eye red. The females are smaller and browner on the back than the male, frequently with fewer streaks or spots on their breast and flanks. Juveniles are even paler than the female, appearing more brown than black, with fainter yellow colouring to feathers and with a grey bill rather than the pink seen on adults (DAWE, 2021d).

The Painted Honeyeater is endemic to Australia. The species is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory. The greatest concentrations and almost all records of breeding come from south of 26°S, on inland slopes of the Great Dividing Range between the Grampians, Victoria and Roma, Queensland. The species exhibits seasonal north-south movements governed principally by the fruiting of mistletoe, with which its breeding season is closely aligned. Considering its dispersive, nomadic habits, the species is considered to comprise a single population (DAWE, 2021d2).

The Painted Honeyeater is the most specialised of Australia's honeyeaters. Its diet mainly consists of mistletoe fruits, but also includes nectar (from flowering mistletoe, eucalypts and possibly banksias) and arthropods, especially in the non-breeding season. The species inhabits mistletoes in eucalypt forests, woodlands, riparian woodlands of Black Box (*Eucalyptus largiflorens*) and River Red Gum (*E. camaldulensis*), Box-Ironbark Yellow Gum woodlands, Acacia-dominated woodlands, paperbarks, Casuarinas, Callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature

trees, as these host more mistletoes. It is more common in wider blocks of remnant woodland than in narrower strips, although it breeds in quite narrow roadside strips if ample mistletoe fruit is available.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Painted Honeyeater (DoE, 2015d), in effect under the EPBC Act from 08 July 2015.
- Recovery Plan for the Painted Honeyeater (DAWE, 2021d), in effect under the EPBC Act from 16 June 2022.
- The Painted Honeyeater is not referred to in any Threat Abatement Plans.

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA, 2010b).

Specific Impacts

The Painted Honeyeater has a high likelihood of occurrence in the Inland Slopes IBRA subregion portion of the project footprint. There is potentially suitable foraging and nesting habitat within open woodland habitats, but no individuals were sighted during targeted surveys. The project would result in the clearing of 85.10 ha (11%) of potential habitat in the Inland Slopes IBRA subregion.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

Currently, no Important Population of this species has been defined, however, given the dispersive, nomadic habits, this species is considered to comprise of a single population (DAWE, 2021d). The Painted Honeyeater does persist in five Key Biodiversity Areas (KBA) in NSW, one located within the project footprint. The project traverses a Priority Management Area for the species under the NSW Save Our Species (SoS) program, and a KBA in the South-west Slopes of NSW in which the Painted Honeyeater is a Trigger Species (DAWE, 2021d). Therefore, a precautionary approach has been taken and it is assumed that the project footprint contains an important population within the meaning of the guideline.

The Painted Honeyeater has a high likelihood of occurrence in Inland Slopes IBRA subregion within potentially suitable foraging and breeding habitat. The project would result in the loss of 85.10 ha of potential habitat.

Mature trees are more likely to host more mistletoes utilised by the species (DAWE, 2021d). Therefore, the retention of mature trees, particularly large mature trees (DBH ≥ 113 cm), and the avoidance of areas containing a high density of mature trees will minimise impacts to the species. Mature trees are more likely to host more mistletoes utilised by the species (DAWE, 2021d).

The project footprint would result in the clearing of mature trees which the Painted Honeyeater potentially requires as foraging and nesting habitat (DAWE, 2021d). There is therefore a possibility that the removal of 85.10 ha of potential foraging and nesting habitat has the potential to lead to a long-term decrease in the size of the population.

Reduce the area of occupancy of an important population

Due to the factors outlined above, the loss of 85.10 ha of potential habitat for the Painted Honeyeater, across its range may reduce the area of occupancy for the Painted Honeyeater.

Fragment an existing important population into two or more populations

The Painted Honeyeater is a highly mobile species, and the project would result in the construction of transmission lines and associated infrastructure that would be highly permeable. These developments would not lead to any significant barriers that would limit the species use of potential foraging and breeding habitat within or outside of the project footprint. A connectivity strategy would also be implemented to mitigate any impacts of habitat fragmentation on this species. Therefore, the fragmentation of an existing important population into two or more populations as a result of the project is considered unlikely.

Adversely affect habitat critical to the survival of a species

Habitat critical to the survival of the species is defined in the Recovery Plan of the Painted Honeyeater (DAWE, 2021d). It is divided into breeding, foraging and long-term maintenance habitat, and includes the following:

- Breeding Habitat
  - Known or likely breeding habitat in Boree/Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) woodlands, box-gum woodlands and box-ironbark forests on the inland slopes of the Great Dividing Range in New South Wales, Victoria and southern Queensland.
- Foraging Habitat
  - All preferred foraging species within known and likely foraging habitat particularly mistletoes of the genus *Amyema* growing on forest and woodland eucalypts and acacias.
- Habitat for the long-term maintenance of the species
  - All Key Biodiversity Areas with Painted Honeyeater as a Trigger species.
  - Suitable habitat in future climate niches as information becomes available.

The project would result in the clearing of potential breeding and foraging habitat, including the clearing of preferred foraging habitat and vegetation within the South-west Slopes KBA. It is therefore considered likely that the project would adversely affect habitat that may be critical to the survival of this species.

Disrupt the breeding cycle of an important population

The project would result in the clearing of potential breeding habitat for the species. Given the extent of habitat clearance over its range, the project may disrupt the breeding cycle of a proportion of the population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

As described above, the project would result in the clearing of 85.10 ha of potential breeding and foraging habitat, and vegetation within the South-west Slopes KBA. Thus there is a possibility that the population of the Painted Honeyeater may decline as a result of the project.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The Painted Honeyeater is predated by introduced predators such as Black Rats *(Rattus rattus)* and nest-predation by native birds such as Pied Currawongs (*Strepera graculina*), Pied and Grey Butcherbirds (C*racticus nigrogularis* and *Cracticus torquatus*), and crows and ravens (Corvidae) (DAWE, 2021d).

The Painted Honeyeater also competes for resources with larger and/or more aggressive honeyeaters such as the Noisy Miner, Yellow-throated Miner, Noisy Friarbird and the Red Wattlebird. Reducing foraging and breeding habitat availability is likely to exacerbate this threat.

While the project is unlikely to result in further invasive species becoming established, it would result in the removal of potential breeding and foraging habitat for the Painted Honeyeater, exacerbating the threat posed by already present invasive and native competitor/predators.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species of the Painted Honeyeater, this risk would be mitigated through implementation of hygiene protocols throughout the development and management of the project.

Interfere with the recovery of the species

The Recovery Plan (DAWE, 2021d) for the species identifies the following strategies to achieve the recovery objectives:

- Protect, manage and restore Painted Honeyeater breeding and foraging habitats at the local, regional and landscape scales
- Monitor, reduce and manage threats and sources of mortality
- Develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions
- Improve understanding of habitat use at a landscape scale in order to better target protection and restoration measures
- Engage local communities and stakeholders in Painted Honeyeater conservation
- Coordinate, review and report on recovery progress.

The project would impede or interfere with the targeted recovery actions for this species through removal of potential habitat for the species.

Conclusion

Due to the factors described above, the project is considered to have the potential to have a significant impact on the Painted Honeyeater. A summary of the NSW assessment bilateral requirements for Painted Honeyeater is presented in Table A18- 18.

Table A18- 18: NSW assessment bilateral requirements for Painted Honeyeater

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. A map showing the field verified locations of this vegetation within the project footprint is provided in Attachment 1. Indicative distribution map of the known or likely to occur and may occur distributions of the Painted Honeyeater (DAWE, 2021d).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were undertaken in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA, 2010b). These included diurnal bird surveys across the project footprint in areas with an abundance of flowering eucalypts. Detailed methods, survey effort and survey timing, can be found in Section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Painted Honeyeater is known to occur within the Inland Slopes IBRA Subregion portion of the project footprint. The direct impacts of the project on the species include the removal of approximately 85.10 ha of potential foraging and breeding habitat. The national distribution of the Painted Honeyeater extends from southern Victoria through to Queensland and north of the Northern Territory (see distribution map above).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Painted Honeyeater: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the removal of potential foraging and breeding habitat. ▪ Avoid and mitigate vegetation clearing to minimise habitat fragmentation and increase connectivity.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	As detailed above, the project would result in residual impacts to 85.10 ha of potential breeding and foraging habitat of the Painted Honeyeater. As detailed in the SIA above, these impacts are considered to have the potential to be significant.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual impacts to the Painted Honeyeater are considered likely to be significant as detailed in the SIA above. Residual impacts to potential habitat of the Painted Honeyeater would be offset under the NSW BOS (ecosystem credits). Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for Painted Honeyeater because of residual impacts of the project are addressed in Section 14 of the BDAR.

NSW Assessment Bilateral requirements	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.6 Swift Parrot (*Lathamus discolor*)

The Swift Parrot is listed as Critically Endangered under the EPBC Act and Endangered under the BC Act.

Description

The Swift Parrot is a medium-sized species with a slim body, approximately 25 cm long. The body is mostly bright green with a dark blue-purple crown and red around the face, and a red chin and throat edged with yellow. Bright red patches are also found under the wings. From a distance, it's 12 cm long, dark red thin tail and angular pointed wings give it a characteristic streamlined silhouette, distinguishing it from similar lorikeets. It has a flute-like chirruping or metallic "kik-kik-kik" call (TSSC, 2016a; DPE, 2021).

The Swift Parrot is migratory, breeding in Tasmania during spring and summer, and the entire population then migrates north to mainland Australia during autumn and winter. The breeding range of the Swift Parrot is largely restricted to the Tasmanian east and south-east coast, closely mirroring the distribution of blue gum (*Eucalyptus globulus*) (TSSC, 2016a). On mainland Australia, it is distributed in the south-east, from Victoria and the eastern regions of SA to south-east QLD. In NSW, the species is found on the coast and south-west slopes, and the indicative habitat distribution mapping for the species includes the entirety of the project footprint (TSSC, 2016a; DPE, 2022b; DCCEEW, 2022ai). Overall, the species is considered likely to occur within the project footprint.

On the mainland, the Swift Parrot is primarily found in Victoria and NSW, although it disperses widely throughout its indicative distribution. It is dependent on the flowering resources in a variety of habitats, primarily the flowers and psyllid lerps of eucalyptus. In Victoria, they are predominantly found on the inland slopes of the Great Dividing Range in the dry forests and woodlands of the box-ironbark region. Whereas in NSW, they occur in woodlands and forests of the coastal and western slopes and key foraging include *Eucalyptus sideroxylon, E. microcarpa, E. albens and E. melliodora*. Larger, mature specimens of

these species are more likely to be used for foraging than younger plants (Saunders et al., 2010; Saunders and Tzaros, 2011; TSSC, 2016a). During periods of drought in Victoria, the species may occur in coastal drought refuge habitats in NSW which tend to support a larger number of birds (TSSC, 2016a).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- Approved conservation advice for *Lathamus discolor* Swift Parrot, in effect under the EPBC Act from 05 May 2016
- National Recovery Plan for the Swift Parrot (*Lathamus discolor*). In effect under the EPBC Act from 10 Feb 2012
- *Threat abatement plan for predation by feral cats*, is relevant to the Sift Parrot. In effect under the EPBC Act from 23 July 2015.

Relevant survey guidelines for this species include:

- Survey Guidelines for Australia's Threatened Birds. EPBC Act survey guidelines 6.2 (Department of the Environment, Water, Heritage and the Arts (DEWHA), 2010b).

Specific Impacts

The project footprint does not include important habitat areas for the Swift Parrot according to important habitat mapping (DPE, 2022b), but does occur between disjunct areas of mapped important foraging habitat areas for the species. The Swift Parrot has a moderate likelihood of occurrence as a nomadic forager in the Bungonia and Murrumbateman IBRA subregion portions of the project footprint due to the presence of suitable myrtaceous and lerp foraging resources. In the Inland Slopes IBRA subregion, it has a high likelihood of occurrence due to both the presence of suitable myrtaceous and lerp foraging resources. Further, the project footprint intersects a Priority Management Area for the species under the NSW Save our Species (SoS) program (though does not impact priority management sites). The project footprint would result in the loss of approximately 190.73 ha (12%) of potential foraging habitat for the species. The estimated area of occupancy for this species is 33,500 ha (TSSC, 2016a), therefore the project has the potential to decrease the area of occupancy of an important population by 0.57%.

Significant impact criteria

An action is likely to have a significant impact on a Critically Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population

Suitable myrtaceous and lerp foraging resources for the Swift Parrot are found within the project footprint in the Bungonia, Murrumbateman, and Inland Slopes IBRA subregions, and these subregions also contain recent species records. In the Inland Slopes IBRA subregion, the project footprint intersects a Priority Management Area for the species (though does not impact priority management sites). The project would result in the removal of 190.73 ha of potential foraging habitat.

The species is highly mobile, and therefore, unlikely to be at risk during vegetation clearing. It breeds in Tasmania so the project would not impact on any breeding events for the species. However, due to the

presence of suitable foraging habitat within the project footprint, recent species records in the impacted subregions, and the fact that the project traverses a Priority Management Area for the species, it is considered that the removal of 190.73 ha of potential foraging habitat has the potential to lead to a long-term decrease in the population size of the Swift Parrot.

Reduce the area of occupancy of the species

As outlined above, the Swift Parrot has an uncertain and dynamic area of occupancy within its range and recent species records occur in all IBRA subregions within the project footprint. Although the project would not impact breeding areas, it would result in the removal of 190.73 ha of potential foraging habitat. It is therefore considered likely that the project may reduce the area of occupancy of the Swift Parrot.

Fragment an existing population into two or more populations

The Swift Parrot occurs as a single, migratory population (Saunders and Tzaros, 2011) and the project footprint does not impact breeding habitat. The species is highly mobile, and the project footprint would not act as a barrier to movement. It is therefore considered unlikely that the project would fragment the existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

The National Recovery Plan for the Swift Parrot identifies habitat critical to the species' survival as areas of priority habitat for which the Swift Parrot has a level of site fidelity or possess phenological characteristics likely to be of importance to the Swift Parrot or are otherwise identified by the recovery team.

The Recovery Plan does not explicitly identify any sites of priority habitat or of high site fidelity. However, the project footprint intersects a Priority Management Area for the species under the NSW Save our Species (SoS) program in the Inland Slopes IBRA subregion, and the important areas mapping under the BAM for the species (DPE, 2022b).

It is therefore considered that there is some potential that the project would adversely affect habitat critical to the survival of the Swift Parrot given a priority management site (NSW Save our Species program) is located approximately 1km to the south i.e. similar feed habitat may occur within the project area.

Disrupt the breeding cycle of a population

The project does not affect breeding habitat for this species and is a considerable distance from the species known breeding sites in Tasmania. It therefore considered unlikely the project would disrupt the breeding cycle of a population of the Swift Parrot.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 190.73 ha of potential foraging and refuge habitat. The species is not reliant on the habitat within the project footprint for breeding, and their nomadic nature means that they move large distances across their range in search of seasonal foraging resources. It is likely that the species uses the resources within the project footprint but given their dependence on widely distributed resources throughout their range, it is possible that the project may impact important foraging habitat such that the species may decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

The Swift Parrot relies on nectar from a few key species which predisposes the species to resource competition. Noisy Minors (*Manorina melanocephala*) and Honeybees (*Apis mellifera*) are listed as a Key Threatening Process and a Threatening Process for nectivorous birds (DE 2016; Saunders and Tzaros, 2011). The Swift Parrot is also known to experience resource competition from Sugar Gliders (*Petaurus breviceps*) and European Starlings (*Sturnus vulgaris*) (Saunders and Tzaros, 2011). These species are already present throughout the project footprint and broader landscape.

However, the project would result in the removal of foraging habitat only, which is relatively widespread in the region and across the species range. Given the availability of potential foraging habitat in the region, an increase in resource competition between the Swift Parrot, Noisy Miners and Honeybees and other competitive species as a result of the project is considered unlikely.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species of the Swift Parrot, this risk would be mitigated through hygiene protocols implemented through the Biodiversity Management Plan to be prepared for the project.

The Swift Parrot may also be affected by Psittacine Beak and Feather Disease (PBFD), a deadly disease that naturally occurs in parrot populations. The disease is prevalent in parrots that are injured, rehabilitated and release back into the wild, which could interact with the Swift Parrot. The disease already exists in the wild and the project would not result in the increased likelihood of diseased birds interacting with the Swift Parrot.

It is therefore considered unlikely that the project would introduce a disease that may cause the Swift Parrot to decline.

Interfere with the recovery of the species

Mitigation and avoidance measures would be refined and implemented where practicable to reduce the impact of the project on suitable foraging resources. However, the project would impact vegetation within a Priority Management Area for the species and due to this, the project is considered to potentially interfere with the recovery of the Swift Parrot.

Conclusion

In line with the above findings, the project is considered to potentially have a significant impact on the Swift Parrot. A summary of the NSW assessment bilateral requirements for Swift Parrot is presented in Table A18- 19.

Table A18- 19: NSW assessment bilateral requirements for Swift Parrot

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any	A description of suitable breeding and foraging habitat for the Swift Parrot, habitat critical for survival and relevant Commonwealth documents are provided above.

NSW Assessment Bilateral requirements	
relevant Commonwealth guidelines and policy statements	 Indicative distribution map of the likely to occur and may occur distributions of the Swift Parrot (*Lathamus discolor*) (DCCEEW, 2022ai).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	No important habitat for the Swift Parrot (as identified on the Important Habitat Map, DPE, 2022b) was mapped within the project footprint and as such, no targeted surveys were required for this species. However, potentially suitable foraging habitat was found in the Bungonia, Murrumbateman, and Inland Slopes IBRA subregions, within associated PCTs impacted by the project. The flora species characterising suitable foraging habitat were determined from the information provided in the SPRAT profile for the Swift Parrot, and details of the fauna habitat assessments performed can be found in Section 6.3 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	In NSW, the species is found on the coast and south-west slopes (see distribution map above) and there are approximately 300 individuals remaining in the wild (Olah et al. 2021). The species has a moderate likelihood of occurrence as a nomadic forager in the Bungonia and Murrumbateman IBRA subregions, due to the presence of suitable myrtaceous and lerp foraging resources within the project footprint and recent species records in these subregions. Importantly, the species has a high likelihood of occurrence in the Inland Slopes IBRA subregion, which contains suitable myrtaceous and lerp foraging resources within the project footprint and many recent species records in the subregion. The project footprint also intersects a Priority Management Area for the species. Currently, the project footprint would result in the removal of 190.73 ha of potential suitable foraging habitat. It is unclear how much preferred habitat remains nationally and where it is spatially located. This is further obfuscated due to movement of the species in response to flowering events, which vary spatially and temporally (TSSC 2016a).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Swift Parrot: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid/minimise the clearing of vegetation communities associated with the Swift Parrot, particularly woodland and forest containing mature eucalyptus trees and psyllid lerps. ▪ Avoid/ minimise the clearing of key foraging species, including *Eucalyptus sideroxylon, E. microcarpa, E. albens and E. melliodora.* ▪ Avoid/minimise the clearing of any vegetation within the Priority Management Area for the species located in the Inland Slopes IBRA subregion.

NSW Assessment Bilateral requirements	
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	Given the project footprint intersects with the Priority Management Area for the Swift Parrot in the Inland Slopes IBRA subregion and the scale of potential habitat loss (190.73 ha), it is considered that there is likely to be significant residual adverse impact on the Swift Parrot.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Swift Parrot are considered likely to be significant as detailed in the SIA above. Residual impacts to the Swift Parrot would be offset under the NSW BOS through impacts to potential habitat (ecosystem credits). The species was not identified as a species credit species under the BAM (DPIE, 2020a) as the project does not impact any habitat as mapped on the Important Habitat Map for the species. Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for Swift Parrot as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.7 Superb Parrot (*Polytelis swainsonii*)

Superb Parrot is listed as Vulnerable under the EPBC Act and the BC Act.

Description

The Superb Parrot is a medium-sized, slender, long-tailed bright grass-green parrot, which has sharply back-angled wings in flight. They are 36-42 cm long and weigh between 133 and 157 grams. Adult males have a bright yellow forehead, throat and cheeks, and a red crescent separates the yellow throat from the green breast. Adult females are duller green and lack red and yellow markings, which are instead a dull light blue in colour. Immature birds are similar in appearance to females, however young males are a slightly brighter green (OEH, 2017a; TSSC, 2016b).

The Superb Parrot is found throughout eastern inland NSW. Its core range is west of the Great Dividing Range in NSW from Canberra, Goulburn and as far west as Nyngan and Swan Hill. They predominantly breed in the South-western Slopes, in an area roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west. During winter, birds are absent from this area where they migrate

north to the region of the upper Namoi and Gwydir Rivers (OEH, 2017a; TSSC, 2016b). However, this is not considered a regular migration, as it strongly correlated with plant productivity in the region which varies from year to year (TSSC, 2016b). Other breeding areas occur in the Riverina where birds are present year-round, along the corridors of the Murray, Edward and Murrumbidgee Rivers (OEH, 2017a).

Superb Parrots inhabit a variety of woodlands and other habitat types, including box-gum, box-cypress-pine, Boree woodlands, River Red Gum forest, artificial crops and recreational reserves (OEH, 2017a; DAWE, 2021e). In the Riverina, they mainly nest in tall riparian River Red Gum forest or woodland in the hollows of large trees or stags. In the South-west Slopes, nest trees can be in open box-gum woodland or isolated paddock trees. They are known to known to nest in *Eucalyptus blakelyii, E. melliodora, E. bridgesiana,* and *E. polyanthemos* (OEH, 2017a). They mostly feed on the ground consuming native and exotic seeds, including wallaby grass *Rytidosperma spp*., barley grass *Critesion spp.*, wheat *Triticum aestivum* and oats *Avena sativa.* They also feed on numerous wattle species eg, *Acacia dealbata*, *A. deanei, A. acinacea,* and Elms *Ulmus spp,* the flowers, fruits and lerps of eucalypts, mistletoe eg, *Amyema miquelii* and *A. quandang,* dwarf cherry *Exocarpos strictus* and Plums *Prunus spp.* (DAWE, 2021e).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for *Polytelis swainsonii* (Superb Parrot) (TSSC, 2016b). In effect under the EPBC Act from 02 May 2015.
- National Recovery Plan for the Superb Parrot Polytelis swainsonii. In effect under the EPBC Act from 08 June 2022 (DAWE, 2021e).

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA, 2010b).

Specific Impacts

The Superb Parrot is known to occur within the project footprint in the Murrumbateman and Inland Slopes IBRA subregions portion of the project footprint, with suitable foraging and potential nesting habitat occurring in grassy box woodland. It also has a high likelihood of occurrence in Crookwell (foraging habitat), with suitable open woodland habitats occurring but no species sightings during targeted surveys. The project would result in the clearing of 125.41 ha (12%) of known habitat in Murrumbateman and Inland Slopes IBRA subregions, and 18.21 ha (2%) of potential habitat in the Crookwell IBRA subregion.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

Currently, no important populations of this species have been defined by the literature. However, there are two main populations of the Superb Parrot, including the Riverina population and the Southwest Slopes and Southern Tablelands population (SoS, 2018), the latter being potentially impacted by the project. The

project also traverses a Priority Management Area for the species under the NSW Save Our Species (SoS) program, and a Key Biodiversity Area (KBA) in the South-west Slopes of NSW in which the Superb Parrot is considered a Trigger species (DAWE, 2021e). Therefore, a precautionary approach has been taken and it is assumed that the project footprint contains an important population within the meaning of the guideline.

The Superb Parrot was recorded within the project footprint in the Murrumbateman and Inland Slopes portion of the project footprint, during targeted surveys and has a high likelihood of occurrence in Crookwell. The project would result in the loss of 125.41 ha of known habitat and 18.21 ha of potential habitat.

The project footprint may result in the clearing of suitable hollows (nesting habitat) which the Superb Parrot requires to nest and raise their young (DAWE, 2021e). Therefore, it is considered that the project may potentially lead to a long-term decrease in the size of an important population of this species.

Reduce the area of occupancy of an important population

Due to the factors outlined above, namely the loss of 125.41 ha of known habitat and 18.21 ha of potential habitat across its range, there is a possibility that the project would reduce the area of occupancy of an important population the Superb Parrot.

Fragment an existing important population into two or more populations

The Superb Parrot is a highly mobile species, and the project would result in the construction of transmission lines and associated infrastructure that are highly permeable. These developments would not lead to any significant barriers that would limit the species use of potential foraging and breeding habitat within or outside of the project footprint. A connectivity strategy would also be implemented to mitigate any impacts of habitat fragmentation on this species. Therefore, the fragmentation of an existing important population into two or more populations as a result of the project is considered unlikely.

Adversely affect habitat critical to the survival of a species

Habitat critical to the survival of the species is defined in the Recovery Plan of the Superb Parrot (DAWE 2021e). It is divided into breeding, foraging and long-term maintenance habitat, and includes the following:

- Two distinct habitat types are used for breeding: riverine forests in the Riverina and box-gum woodlands in the tablelands and slopes of Victoria, NSW and the ACT.
- Any known breeding colonies with a 10 km buffer zone. A buffer zone can be included in contiguous habitat only. Where a 10 km buffer zone cannot be implemented, the minimum convex polygon area containing all known nesting events with a 200 m buffer should be considered as habitat critical to the survival of the species.
- Hollow-bearing trees with the following characteristics: a DBH of approximately 113 cm and tree height between 12-24 m, hollows with an entrance diameter of 8-12 cm, depth of 59-122 cm, floor diameter of 15-22 cm and hollows located on a branch or stem with a diameter of 36-49 cm.
- Any potential nest trees captured within the buffer zone.
- All preferred foraging habitat during both breeding and non-breeding season, excluding exotic feeding grounds such as agricultural lands and exotic street trees.
- Habitat for the long-term maintenance of the species.
- All Key Biodiversity Areas (KBA) with the Superb Parrot as a Trigger species.
- Any potential suitable foraging habitat within the projected south-eastward range shift.

The project would result in the clearing of suitable hollows in known and potential habitat, as well as the clearing of preferred foraging habitat and vegetation within a Priority Management Area and the South-west Slopes Key Breeding Areas. Therefore, the project would adversely affect habitat considered critical to the survival of the species.

Disrupt the breeding cycle of an important population

The project would result in the clearing of potentially suitable hollow-bearing trees which the Superb Parrot requires to nest and raise their young, and the loss of foraging resources. Therefore, it is considered that the project has potential to disrupt the breeding cycle of an important population of the Superb Parrot.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 125.41 ha of known habitat and 18.21 ha of potential habitat for the Superb Parrot, which may be used for breeding and foraging purposes. Therefore, the project has the potential to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species may decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The Superb Parrot is predated upon by introduced predators such as feral cats (*Felis catus*) and European Red Foxes (*Vulpes vulpes*), however this is currently considered a minor threat (DAWE, 2021e). Mitigation measures to manage feral and invasive pest plants and animals will be implemented and detailed within the Biodiversity Management Plan.

Species that are known to compete with the Superb Parrot for hollows include the Common Starling (*Sturnus vulgaris*), Sulphur-crested Cockatoo (*Cacatua galerita*), Eastern Rosella (*Platycercus eximius*), Common Myna (*Acridotheres tristis*), Galah (*Eolophus roseicapilla*), Little Corella (*Cacatua sanguinea*) and Long-billed Corella (*Cacatua tenuirostris*). European honeybees (*Apis mellifera*) may also compete with this species for hollows, while the non-native, invasive Common Starling (*Sturnus vulgaris*) and Common Myna (*Acridotheres tristis*) have been observed removing Superb Parrot eggs from active nests (DAWE, 2021e).

The project may result in the removal of suitable hollow-bearing trees within known or potential habitat for the Superb Parrot that could potentially be utilised for nesting. Due to the extremely limited number of suitable hollows for this species remaining in the landscape (Stojanovic *et al.,* 2020), the loss of these nest sites may result in increased competition with invasive hollow-using species. However, these species as well as feral cats and foxes are already present throughout the project footprint and broader landscape. As such, the project is unlikely to result in potentially harmful invasive species becoming established.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species of the Superb Parrot, this risk would be mitigated through hygiene protocols to be implemented throughout the development and management of the project and detailed within the Biodiversity Management Plan.

The Superb Parrot may also be affected by *Psittacine* Beak and Feather Disease (PBFD), a deadly disease that naturally occurs in parrot populations. The disease is prevalent in parrots that are injured, rehabilitated and released back into the wild, which could interact with the Superb Parrot. The loss of suitable hollow-bearing trees and foraging resources as a result of the project is likely to increase competition for suitable hollow bearing trees and may result in the increased likelihood of PBFD infection in this species. Therefore while the project is unlikely to introduce disease that may lead to species decline, it may increase exposure of these animals to the disease.

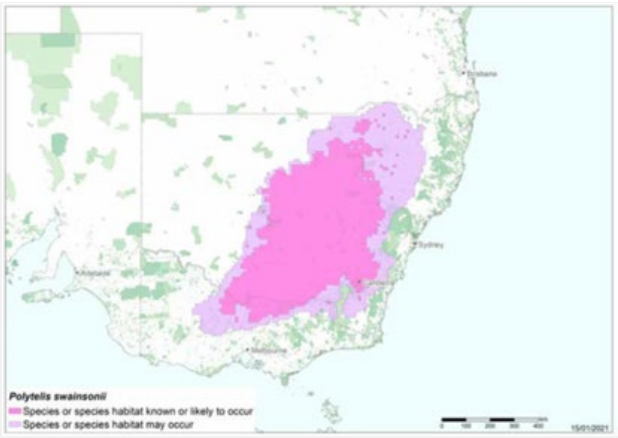
Interfere with the recovery of the species

Although various avoidance and mitigation measures would be implemented to reduce the impact on the Superb Parrot (such as pre-clearing surveys, survey for and avoidance of nest trees where possible) to be detailed within the Biodiversity Management Plan, the project will result in the clearing of known and suitable habitat containing potential nest trees, preferred foraging habitat and vegetation in the South-west Slopes KBA. As outlined in the Recovery Plan for the Superb Parrot (DAWE, 2021e), this habitat is considered critical to the survival of the species. It is therefore considered that the project would interfere with the recovery of the Superb Parrot.

Conclusion

Due to the factors described above, it is considered likely that the project would have a significant impact on the Superb Parrot. A summary of the NSW assessment bilateral requirements for Superb Parrot is presented in Table A18- 20.

Table A18- 20: NSW assessment bilateral requirements for Superb Parrot

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. A map showing the field verified locations of this vegetation within the project footprint is provided in Attachment 1. Indicative distribution map of the known or likely to occur and may occur distributions of the Superb Parrot *Polytelis swainsonii* (DCCEEW, 2022t).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Surveys for the species were conducted in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DEWHA, 2010b). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.

NSW Assessment Bilateral requirements	
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Superb Parrot is found throughout eastern inland NSW with the estimated habitat extent unknown (DAWE, 2021e). The species is known to occur within the project footprint in the Murrumbateman and Inland Slopes IBRA subregions and has a moderate likelihood of occurrence in the Crookwell IBRA subregion. The project would result in the clearing of 125.41 ha of known in Murrumbateman and Inland Slopes IBRA subregions, and 18.21 ha of potential habitat in the Crookwell IBRA subregion. Currently, the population is estimated to range between 6,500-100,000 mature individuals; however, this estimate has low reliability (DAWE, 2021e).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Superb Parrot: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the removal of known and potential species habitat, particularly large eucalypts (DBH ≥ 113 cm) with suitable nesting hollows. ▪ Avoid and mitigate vegetation clearing to minimise habitat fragmentation and increase connectivity. ▪ Avoid and mitigate clearing of vegetation in the Superb Parrot Priority Management Area and the South-west Slopes KBA.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	As detailed in the SIA above, the residual adverse impact to 143.62 ha of known and potential breeding habitat for an important population, including habitat that may be critical to the survival of the species, is considered likely to be significant.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Superb Parrot are considered likely to be significant as detailed above. Residual impacts to Superb Parrot would be offset under the NSW BOS (species credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for Superb Parrot as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.8 Pilotbird (*Pycnoptilus floccosus*)

The Pilotbird is listed as Vulnerable under the EPBC Act and is not listed under the BC Act.

Description

Pilotbirds are small, plump, ground-dwelling birds, about 18 cm long with a wingspan and weight of around 23 cm and 27 grams, respectively (DAWE, 2022b). Pilotbirds are large headed with cinnamon frons, amber eyes and slender, pointed, dusky bills (DAWE, 2022b). Their upperparts are a deep rufous-brown, while their tails are long, broad, and wedge-tipped (DAWE, 2022b). The species' throat, breast and underbelly are cinnamon, scalloped brown (DAWE, 2022b). Their lower underparts are dull white, and they have brown flanks and rufous tail coverts (DAWE, 2022b).

Pilotbirds are endemic to south-east Australia (DAWE, 2022b). Upland Pilotbirds occur above 600 m in the Brindabella Ranges in the Australian Capital Territory, and in the Snowy Mountains in New South Wales and north-east Victoria (DAWE, 2022b). Lowland Pilotbirds occur in forests from the Blue Mountains west of Newcastle, around the wetter forests of eastern Australia, to Dandenong near Melbourne (DAWE, 2022b).

Pilotbirds are strictly terrestrial, living on the ground in dense forests with heavy undergrowth (DAWE, 2022b). Largely sedentary, they are typically seen hopping briskly over the forest floor and foraging on insects, fruits and seeds on damp ground or among leaf-litter (DAWE, 2022b). Flight is described as weak, though, if disturbed, birds can sometimes ascend into shrubs (but no more than 1–2 m from the ground) (DAWE, 2022b). They are typically seen in pairs or occasionally in family parties, occupying small territories all year round (DAWE, 2022b).

The species was not recorded during field surveys and has been assumed present in the Snowy Mountains, Bondo and Inland Slopes IBRA subregion portions of the project footprint, in higher quality, intact remnants.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for the Pilotbird (DAWE, 2022b), in effect under the EPBC Act from 2 March 2022.
- A Recovery Plan is not required for this species - the approved Conservation Advice is considered to provide sufficient guidance on the recovery of the species.
- No Threat Abatement Plan has been identified as being relevant for this species.
- There are no survey guidelines for this species.

Specific Impacts

The Pilotbird has a high likelihood of occurrence in the Bondo, Inland Slopes, and Snowy Mountains IBRA subregions with suitable woodland habitats for foraging and breeding, however no species were sighted during targeted surveys. There were 324 Pilotbird records within 20 kilometers of the project footprint (DPE, 2023), with records primarily distributed near Tumut, Bago State Forest and Bondo State Forest.

The project would result in the clearing of 130.5 ha of potential habitat in the Bondo, Inland Slopes and Snowy Mountains IBRA subregions. Assessment of potential habitat is based on the presence of suitable

wet sclerophyll and dry sclerophyll vegetation formations which is in high condition within the project footprint. The species requires dense midstorey and groundcover for refuge and foraging purposes. The estimated area of occupancy for this species is 2,660,000 ha (Loyn *et al.,* 2021). The project therefore has the potential to reduce the area of occupancy for this species by 0.01%.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

Important populations are not defined in the conservation advice for this species. The species consists of two subspecies distributed in two areas: Upland Pilotbirds which occur in the Snowy Mountains (11,000 mature individuals), and Lowland Pilotbirds which occur around the wetter forests of eastern Australia. Given that potential habitat for both subspecies occurs in the project footprint, a precautionary approach has been taken and it is assumed that the project footprint could contain an important population.

The project would result in an increased risk of vehicular strike or machine trampling of this species, and the loss of 130.5 ha of potential habitat. In addition, the total population for the Upland and Lowland subspecies has very likely declined due to the 2019/2020 fires (DAWE, 2022b). There is therefore potential for the project to lead to a long-term decrease in the size of an important population of this species. A connectivity strategy will be implemented as part of the Biodiversity Management Plan to facilitate species movement throughout the project footprint.

Reduce the area of occupancy of an important population

As stated above, important populations have not been defined for this species, however a precautionary approach has been taken and it is assumed that the project footprint contains habitat that may support an important population within the meaning of the guideline. Due to the factors outlined above, and notably the loss of 130.5 ha of potential habitat for the Pilotbird, there is a possibility that the project may reduce the area of occupancy of an important population of this species.

Fragment an existing important population into two or more populations

As stated above, important populations have not been defined for this species, however a precautionary approach has been taken and it is assumed that the project footprint contains habitat that may support an important population within the meaning of the guideline. Potential habitat for this species is intersected by the project footprint and may become fragmented as a result of clearing. The project footprint is relatively narrow and would not impede movement of the species from patches of vegetation to be retained on either side. Retained midstories and ground cover within the project footprint would also enable the species to continue to traverse the project footprint and therefore it is considered unlikely that an existing population of the Pilotbird would be fragmented into two or more populations.

Adversely affect habitat critical to the survival of a species

No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for this species. The conservation advice states that habitat critical to the survival of the Pilotbird includes:

- Wet sclerophyll forests in temperate zones in moist gullies with dense undergrowth, and
- Dry sclerophyll forests and woodlands occupying dry slopes and ridges
- As well as any breeding or foraging habitat in areas where the species is known or likely to occur.

The project would result in the clearing of potential habitat (130.5 ha) for this species in areas where the species is likely to occur based on conservation advice mapping. There were 324 Pilotbird records within 20 kilometres of the project footprint (DPE, 2023), with records primarily distributed near Tumut, Bago State Forest and Bondo State Forest. The species has a high likelihood of occurrence within the Snowy Mountains and Bondo IBRA subregion portions of the project footprint. The estimated area of occupancy for this species is 2,660,000 ha (Loyn *et al.* 2021). The project therefore has the potential to reduce the area of occupancy for this species by 0.01%.

Disrupt the breeding cycle of an important population

As stated above, important populations have not been defined for this species, however a precautionary approach has been taken and it is assumed that the project footprint could contain an important population within the meaning of the guideline. Key potential impacts include the removal of 130.5 ha of potential habitat. Given the mitigation measures proposed to control the impact of fragmentation on this species, and the areas of suitable habitat to be retained both within the project footprint and adjacent lands, the project is considered unlikely to disrupt breeding cycles for this species in the long-term.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 130.5 ha of potential habitat. Should the species occur, given the scale of habitat removal, it is possible that the reduction in habitat as a result of the project may lead to species decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The Pilotbird is predated by introduced predators such as feral cats (*Felis catus*) and European Red Foxes (*Vulpes vulpes*), however this is currently considered a minor threat (DAWE, 2022b) and these species are already established throughout the project footprint and broader landscape. The project is unlikely to result in increased invasive species that will be harmful to the Pilotbird. Mitigation measures to control the spread of weeds and pest animals would be detailed in the Biodiversity Management Plan.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species/habitat of the Pilotbird, this risk would be mitigated through hygiene protocols throughout the development and management of the project. The project is unlikely to result in the introduction of a disease that would cause the Pilotbird to decline.

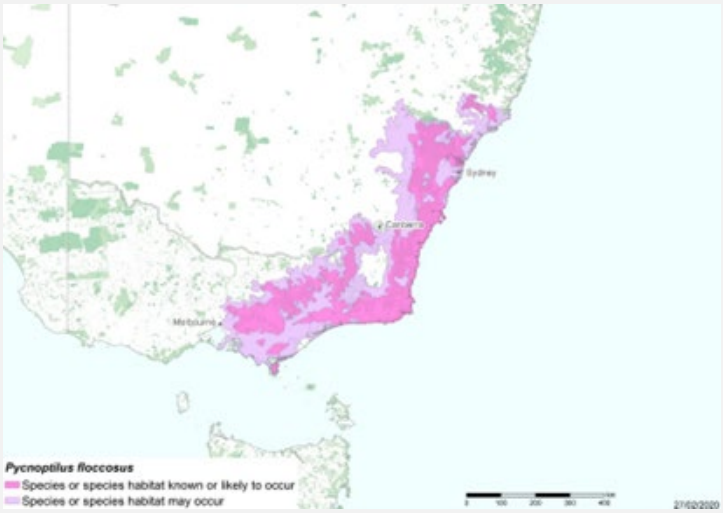
Interfere with the recovery of the species

There is no recovery plan for this species. The conservation advice for this species identifies a number of conservation and recovery actions including to 'ensure remaining habitat is protected from disturbance and fragmentation'. Given that the project would remove suitable habitat for this species, there is potential for the project to interfere with this recovery action.

Conclusion

Due to the factors described above, it is considered that the project could potentially have a significant impact on the Pilotbird under the precautionary principle. A summary of the NSW assessment bilateral requirements for Pilotbird is presented in Table A18- 21.

Table A18- 21: NSW assessment bilateral requirements for Pilotbird

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of suitable breeding and foraging habitat for Pilotbird, habitat critical for survival and relevant Commonwealth documents are provided above. A map showing its modelled distribution is provided below, and a map showing the field verified locations of suitable foraging, nesting and breeding habitat within the project footprint are provided in Attachment 1.  Indicative distribution map of the known, likely to occur and may occur distributions of Pilotbird (DAWE, 2022b).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were undertaken in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines 6.2 (DEWHA 2010b). These included diurnal bird surveys across the project footprint in areas with an abundance of flowering eucalypts. Detailed methods, survey effort and survey timing, can be found in Section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Pilotbird is likely to occur within the project footprint of the Bondo, Inland Slopes, and Snowy Mountains IBRA subregions. Direct impacts of the project on this species include the removal of approximately 130.5 ha of potential foraging and breeding habitat. The national distribution of the Pilotbird extends from south-eastern Victoria along the south-east coast of NSW (see distribution map above). The estimated area of occupancy for the Pilotbird is 2,660,000 ha (Loyn *et al.,* 2021). Therefore, the project is likely to reduce the species' area of occupancy by 0.001% on a national scale.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Pilotbird: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the removal of known and potential species habitat. ▪ Avoid and mitigate vegetation clearing to minimise habitat fragmentation and increase connectivity.

NSW Assessment Bilateral requirements	
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	After the proposed activities are undertaken to avoid and mitigate these impacts, as detailed in the SIA above, a precautionary approach assumes that the project could potentially have a significant impact on the Pilotbird due to the scale of potential habitat to be impacted (130.5 ha).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Pilotbird are considered to have the potential to be significant as detailed above. The Pilotbird is currently not listed under the BC Act and has no associated PCTs identified in BioNet (DPE, 2023). It is not identified as an ecosystem or species credit species. However, residual impacts to the species' habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Pilotbird as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.9 White-throated Needletail (*Hirundapus caudacutus*)

The White-throated Needletail is listed as Vulnerable under the EPBC Act and is not listed under the BC Act.

Description

White-throated Needletail is a large swift with approx. 50 cm wingspan and short, square tail. Predominantly dark, with white throat, forehead and undertail coverts. The name refers to the short spines that extend beyond the feathers of the tail (OEH, 2017c).

The White-throated Needletail is widespread in eastern and south-eastern Australia (DAWE, 2022b). In eastern Australia, it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. It is widespread in Victoria, though more so on and south of the Great Divide, and there are few records in western Victoria outside the Grampians and the South-west. The species occurs in adjacent areas of south-eastern South Australia, where it extends west to the Yorke Peninsula and the Mount Lofty Ranges. It is widespread in

Tasmania. White-throated Needletails only occur as vagrants in the Northern Territory and in Western Australia (DAWE, 2022b).

There are no published estimates of the extent of occurrence of the White-throated Needletail in Australia. The estimated global extent of occurrence is 1,000,000–10,000,000 km² (Birdlife International 2007q). The area of occupancy of the White-throated Needletail in Australia has been estimated at 126,200 km². The species occurs at numerous and widespread sites in eastern Australia (DAWE, 2022b).

The White-throated Needletail is generally gregarious when in Australia, sometimes occurring in large flocks, comprising hundreds or thousands of birds, though they are occasionally seen singly, and occasionally occur in mixed flocks with other aerial insectivores, including Fork-tailed Swifts (*Apus pacificus*) and Fairy Martins (*Hirundo ariel*) (DAWE, 2022b).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan:

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for the White-throated Needletail (TSSC, 2019d), in effect under the EPBC Act from 4 July 2019.
- A Recovery Plan is not required for this species - the approved Conservation Advice is considered to provide sufficient guidance on the recovery of the species.
- No Threat Abatement Plan has been identified as being relevant for this species.
- There are no survey guidelines for this species.

Specific Impacts

The species is known to occupy the airspace above most vegetation formations, and habitats found within the project footprint (aerial forager). The project has the potential to remove approximately 85.09 ha of opportunistic/potential foraging habitat. However, the species is highly mobile, and is almost always aerial in Australia, at heights up to 'cloud level', above a wide variety of habitats and disturbed areas (DCCEW, 2019). They use updrafts, low pressure systems to glean aerial insects, and are less reliant on terrestrial vegetation communities as a habitat resource.

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

There is no adopted or made Recovery Plan for the White-throated Needletail and no important populations have been identified in Commonwealth conservation documents. It is considered unlikely that any population of White-throated Needletails in the project footprint would be considered part of an important population. This is because the project footprint is not at the limit of the species range. The currently available information is insufficient to assess whether the local population would be necessary for maintaining the genetic diversity of the species, however given the number and distribution of records within the species range, this is considered unlikely.

The White-throated Needletail was not recorded during the field surveys for the project. Potential foraging habitat is present in the project footprint in the form of associated PCTs. Approximately 722.67 ha of

potential habitat for this species would be cleared as a result of the project. Extensive areas of potential habitat for this species are also present within the locality and would be retained. Given the substantial area of similar habitat within the project footprint and locality, the project is considered unlikely to lead to long-term decrease in the size of an important population of this species.

Reduce the area of occupancy of an important population

White-throated Needletail is known to occur across eastern Australia. White-throated Needletail was not recorded during the field surveys for the project and the project footprint is not at the limit of the species range. As such, it is considered unlikely that any population of White-throated Needletail in the project footprint would be considered part of an important population. The clearing associated with the project may impact approximately 85.09 ha of potential habitat in the form of associated PCTs. The species is almost exclusively aerial in Australia, at heights up to 'cloud level', above a wide variety of habitats and disturbed areas (DCCEEW, 2022l). They use thermal updrafts, and low-pressure systems to glean aerial insects, and is less reliant on terrestrial vegetation as a habitat resource. Therefore, it is considered unlikely that the project would reduce the area of occupancy of an important population.

Fragment an existing important population into two or more populations

As mentioned previously, it is considered unlikely that any population of White-throated Needletail in the project footprint would be considered part of an important population. Clearing of approximately 85.09 ha potential habitat for the White-throated Needletail has potential to occur, although, the species is highly mobile and almost exclusively aerial in Australia (feeding on aerial insects) and is known to forage over a range of habitat types, and disturbed areas. Therefore, the project is unlikely to lead to fragmentation or isolation of an existing population into two or more populations due to the extensive areas of potential habitat to be retained, and the extensive range and mobility of the species.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species. The area of habitat to be impacted for the project would be approximately 85.09 ha of potential foraging habitat.

Given the substantial areas of similar habitat within the project footprint and locality to be retained, and the diversity of habitat types over which this species may forage, it is considered unlikely that the project would adversely affect habitat critical to the survival of the species.

Disrupt the breeding cycle of an important population

The species does not breed within Australia. Therefore, the project would not disrupt the breeding cycle of a population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project may impact on potential habitat for the White-throated Needletail as described above, however considering the extensive range of the species, and variety and broad distribution of potential foraging habitat across its range, the removal of potential habitat associated with the project is considered unlikely to contribute to the decline of the species.

The installation of transmission lines have the potential to create a collision hazard resulting in strikes with the lines. The SPRAT profile for this species indicates that there is the constant threat of collision with overhead wires when in Australia, however this affects only a few individuals and is not a threat to the species overall (DCCEEW 2022l). Given the existing threat of collision with overhead wires, it is unlikely that the installation of transmission lines in the project footprint would increase this threat to the extent that there would be a substantial impact to the species overall.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for this species.

Introduce disease that may cause the species to decline, or

Whilst there is some potential for construction plant and machinery to transport and disperse soil pathogens throughout the project footprint that could impact upon roosting habitat, this risk will be managed through the use of vehicle wash down procedures, to be detailed in the Biodiversity Management Plan.

Interfere substantially with the recovery of the species

There is no adopted or made Recovery Plan for this species. The Conservation Advice (TSSC, 2019d) for the species lists conservation actions that may assist the species. The project is considered unlikely to interfere with these conservation actions.

Conclusion

The project is considered unlikely to result in a significant impact to the White-throated Needletail.

NSW Bilateral assessment

The NSW Assessment of Bilateral requirements for White-throated Needletail are provided in Section 2.5.

2.3.10 Key's Matchstick Grasshopper (*Keyacris scurra*)

Key's Matchstick Grasshopper is listed as Endangered under the EPBC Act and BC Act.

Description

Key's Matchstick Grasshopper is a small (females approximately 25 mm, males approximately 18 mm), slender, wingless grasshopper characterised by its slanted face, splayed hind femora and ensiform antennae. This species occurs in several colour forms, with brown being the most common (TSSC, 2022).

Key's Matchstick grasshopper was originally distributed from Victoria (Vic.) to Orange (NSW) across the wheat/sheep belt (TSSC, 2022) although in recent times the range has contracted. This species is typically recorded in native grasslands, secondary native grasslands or areas that contain the native grass *Themeda* sp. with appropriate disturbance regimes. Degree of disturbance appears to be an important determinant of site occupancy and it appears to be absent from sites that are disturbed during inappropriate times of the year (and interrupt the short non-overlapping lifecycle) or have been subjected to erratic management (eg, periods of over and under grazing) (TSSC, 2022).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for the *Keyacris scurra* Key's Matchstick Grasshopper, in effect under the EPBC Act from 5 October 2022 (TSSC, 2022)
- A Recovery Plan for this species is not required. This decision was based on the fact that the threats facing *Keyacris scurra*, and the recovery actions needed, are well-understood.
- There are no threat abatement plans are relevant to the Key's Matchstick Grasshopper.

Specific Impacts

Key's Matchstick Grasshopper occurrence is assumed in the Bungonia, Crookwell and Inland Slopes IBRA subregions due to the presence of suitable grassland habitats and multiple records within 5 kilometres of the project footprint and known within the Murrumbateman IBRA subregion portion of the project footprint (10 records in total across the project footprint). During field surveys, four individuals were identified within the Murrumbateman portion of the project footprint. The species is associated with PCTs 266, 277, 278, 283 and 1330.

Across the indicative disturbance area there is 192.30 ha of known habitat. According to the approved Conservation Advice there is approximately 14,200 ha of habitat for this species nationally (TSSC, 2022). The project would remove up to 1.6 % of known habitat for the species (habitat used for all life stages of the species).

The project would include the retention of ground-layer vegetation throughout the corridor wherever possible, potentially minimising impacts to the species and allowing for species persistence within areas of known and potential habitat in the project footprint.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

Direct impacts may occur to 192.30 ha of modelled habitat for the species (habitat used for all life stages of the species and where the species is considered likely to occur). This extent of habitat loss has the potential to lead to the long-term decrease in the size of the species' population. The project would aim to avoid areas of known habitat during detailed design and habitat fragmentation would be minimised in known areas through the development of a connectivity strategy. The project would also include the retention of ground-layer vegetation throughout the transmission line easement wherever possible, potentially minimising impacts to the species and allowing for species persistence within areas of potential habitat in the project footprint. Despite this, the removal of habitat used by the species for all stages of its life cycle is likely to lead to a long-term decrease in the size of a Key's Matchstick Grasshopper population.

Reduce the area of occupancy of the species

Across the project footprint there is 192.30 ha of potential habitat within the indicative disturbance area. According to the approved Conservation Advice there is approximately 14,200 ha of remaining habitat for this species (TSSC, 2022). The project would remove up to 1.6 % of known habitat for the species (habitat used for all life stages of the species). The removal of habitat used by the species for all stages of its life cycle has the potential to reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

Due to the limited dispersal capability of Key's Matchstick Grasshopper, this species does not disperse large distances, greater than 10 metres (DPE, 2022). Therefore, sites that are separated by 20 metres or more of unsuitable habitat are considered geographically isolated, individual subpopulations. The indicative disturbance area intersects the species likely distribution and would impact on 192.30 ha of known habitat. The project may reduce the overall extent of habitat, and reduce connectivity through the removal grassland habitats, particularly in proposed transmission line structure and access track locations. At its widest, the transmission line easement component of the project would not be more than 130 metres, whereas most of the easement would generally be 70 metres wide, and thus fragmentation of an existing population into two or more populations is considered unlikely. Therefore, it is considered unlikely that the project would fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species. However, Conservation Advice identified Key's Matchstick Grasshopper habitat as native grasslands, secondary native grasslands or areas that contain the native grass understorey. The project would remove up to 1.6 % of known habitat for the species (habitat used for all life stages of the species). The removal of habitat used by the species for all stages of its life cycle has the potential to adversely affect habitat that may be critical to the survival of Key's Matchstick Grasshopper.

Disrupt the breeding cycle of a population

The project has the potential to disrupt the breeding cycle of Key's Matchstick Grasshopper via the removal of known habitat used for all stages of the species lifecycle. As stated above, the removal of critical habitat has the potential to disrupt the breeding cycle of this species. The project therefore has the potential to disrupt the breeding cycle of the Key's Matchstick Grasshopper.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Known habitat for Key's Matchstick Grasshopper would be impacted by the project (192.30 ha in total). It is recommended that areas of known habitat are avoided, where feasible during detailed design, and a connectivity strategy is implemented. Despite this, there are likely to be residual impacts to the availability and quality of habitat. It is therefore considered likely that the project would decrease habitat availability to such an extent that the species may decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

Whilst there is a risk that the project would introduce invasive weed species into the habitat of the Key's Matchstick Grasshopper, which may be harmful to all stages of the species lifecycle, this risk would be

mitigated through hygiene protocols stipulated in the Biodiversity Management Plan to be prepared for the project.

Introduce disease that may cause the species to decline, or

No diseases are known to directly affect Key's Matchstick Grasshopper. However, the risk of soil pathogens would be mitigated via hygiene protocols stipulated in the Biodiversity Management Plan to be prepared for the project.

Interfere with the recovery of the species

There are no made or adopted recovery plans for this species. Key's Matchstick Grasshopper has been assigned a site-managed species by the Saving Our Species program, which suggests the following management practices at a site, regional and state scale:

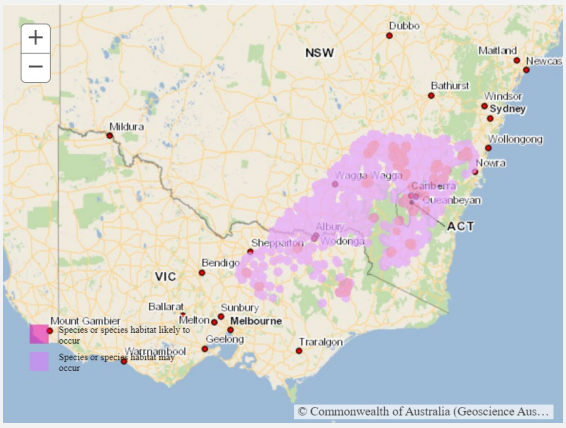
- Retain and protect natural grassland remnants within the known distribution of the species
- Do not change management of sites where species exists unless changes are likely to be beneficial
- Do not destroy habitat and surrounding areas by ploughing and do not allow heavy, prolonged grazing on habitat
- Control invasions of weeds and pasture species (but be wary of the impact of herbicide use in habitat): where possible use methods that directly target weeds such as spot spraying and hand removal
- Where woody species threatens to out-compete grassy habitat in previously grazed or mown sites, consider re-introducing an appropriate biomass control method
- Ensure remnant populations remain connected or linked to each other; in cases where remnants have lost connective links, re-establish links by revegetating sites to act as steppingstones for dispersal.

As known habitat is likely to be removed as a result of the project, the project has the potential to interfere with the recovery of the species.

Conclusion

In line with the above findings, the project is considered likely to have a significant impact on Key's Matchstick Grasshopper. A summary of the NSW assessment bilateral requirements for Key's Matchstick Grasshopper is presented in Table A18- 22.

Table A18- 22: NSW assessment bilateral requirements for Key's Matchstick Grasshopper

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of suitable breeding and foraging habitat for Key's Matchstick Grasshopper, habitat critical for survival and relevant Commonwealth documents are provided above. A map showing its modelled distribution is provided below, and a map showing the field verified locations of suitable foraging, nesting and breeding habitat within the project footprint are provided in Attachment 1.  Indicative distribution map of the known, likely to occur and may occur distributions of Key's Matchstick Grasshopper (DCCEEW, 2022aj).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Detailed methods and timing of the surveys can be found in Section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Across the project footprint there is 635.21 ha of known habitat, and 1,647.18 ha of potential habitat (2,282.39 ha in total). According to the approved Conservation Advice there is approximately 14,200 ha of habitat for this species nationally (TSSC, 2022). The project is likely to remove 4.5% of known habitat for the species (habitat used for all life stages of the species), and removal of 11.6% of potential habitat.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Key's Matchstick Grasshopper: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid impacts to known and potential Key's Matchstick Grasshopper habitat, including temperate grassland or open-box woodland. It is recommended that areas of known habitat are avoided, where feasible during detailed design ▪ Avoid and mitigate habitat fragmentation and ensure gaps between known subpopulation sites are less than 20 m via the development of a connectivity strategy.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	After the above avoidance and mitigation measures are implemented, as detailed in the SIA, there is likely to be significant residual impacts on Key's Matchstick Grasshopper.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Key's Matchstick Grasshopper are considered likely to be significant as detailed above. Residual impacts to Key's Matchstick Grasshopper would be offset under the NSW BOS (species credits). Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for Key's Matchstick Grasshopper as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.

NSW Assessment Bilateral requirements	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.11 Golden Sun Moth (*Synemon plana*)

The Golden Sun Moth is listed as vulnerable under the EPBC Act and BC Act.

Description

The Golden Sun Moth is a medium-sized diurnal moth belonging to the family *Castniidae*. Both sexes have green eyes, clubbed antennae, and no functional mouthparts, however females have a long extensible ovipositor (DAWE, 2021f; DPE, 2022c). The wingspan of males is slightly larger than females with a wingspan of 34 mm and 31 mm, respectively, and females have a reduced hind wing which limits their ability to fly. The colouring of the upper side of the wing differs between the sexes. Males have a dark brown forewing with pale grey patterning and a dark bronze hindwing with dark brown patches. Whereas females have dark grey forewings with pale grey patterning and a bright orange hindwing with black patches around the edge (DAWE, 2021f).

The eggs of the Golden Sun Moth are just over 2 mm long and the larvae develop and pupate underground, feeding on the roots of Wallaby grass. The larvae are cream in colour and late instars have a red-brown head capsule. The red-brown pupal capsule protrudes from the ground after emergence, usually in proximity to a grass tussock. The pupal cases of females are larger than males (DAWE, 2021f).

The Golden Sun Moth is distributed throughout south-eastern Australia and is highly correlated with suitable food plants. However, while the extent of occurrence is large, the area of occupancy of this species is very small. In NSW, it is known to occur in small grassland remnants between Queanbeyan, Gunning, Young and Tumut (DAWE, 2021f; DPE, 2022c). Suitable habitat for the Golden Sun Moth includes native temperate grassland or open box-gum woodlands, with a ground cover layer dominated by native Wallaby grasses (*Rytidosperma* spp.) or exotic Chilean needlegrass (*Nassella neesiana*) on which the species feeds (DAWE, 2021f). The species is restricted within these discrete, suitable areas and breeding habitat is highly

specialised, being dependent on the presence of both food plants and heterogenous bare ground cover (DAWE, 2021f).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved Conservation Advice for the Golden Sun Moth, in effect under the EPBC Act from 7 December 2021 (DAWE, 2021f)
- Recovery Plan required, included on the Commenced List (1 November 2009).
- The following threat abatement plans are relevant to the Golden Sun Moth:
  - Threat abatement plan for competition and land degradation by rabbits. In effect under the EPBC Act from 07 January 2017.

Specific Impacts

The Golden Sun Moth was not detected during field surveys, however it has been assumed present as it has a high likelihood of occurrence in the Murrumbateman and Inland Slopes IBRA subregions due to the presence of suitable grassland habitats and multiple records within five kilometres of the project footprint (59 in Murrumbateman and 11 in Inland Slopes). The project would result in the loss of approximately 38.63 ha of potential foraging and breeding habitat (including 2.75 ha of prescribed impacts on non-native vegetation) for the Golden Sun Moth.

PCTs present in the project footprint that are associated with this species include: PCT 266, 277, 352 and 1330. The project would include the retention of ground-layer vegetation throughout the transmission line easement wherever possible, potentially minimising impacts to the species and allowing for species persistence within areas of potential habitat in the project footprint.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population

Direct impacts may occur to 38.63 ha of potential foraging and breeding habitat (including prescribed impacts) of the Golden Sun Moth, which has the potential to lead to the long-term decrease in the size of the species' population. However, it is recommended that areas of known or potential habitat are avoided, where feasible during detailed design, and habitat fragmentation would be avoided in known areas through the implementation of a connectivity strategy be developed as part of the Biodiversity Management Plan. After these avoidance and mitigation measures are implemented, is it considered unlikely that the project would lead to a long-term decrease in the size of a Golden Sun Moth population.

Reduce the area of occupancy of an important population

The project has the potential to reduce the area of occupancy if any of the areas of potential habitat are occupied by the species. The project would implement avoidance measures as detailed above in areas of known habitat for the species. Once the removal of known habitat is avoided and a connectivity strategy

implemented, it is considered unlikely that the project would reduce the area of occupancy of a Golden Sun Moth population.

Fragment an existing population into two or more important populations

Golden Sun Moth persists in fragmented sites over a broad distribution. Due to the limited dispersal capability of the species, sites that are separated by 200 meters or more of unsuitable habitat are considered geographically isolated, individual subpopulations. Known habitat of populations within the project footprint would be avoided during detailed design where feasible, and a connectivity strategy implemented to minimise fragmentation impacts on the species. At its widest, the transmission line easement component of the project footprint would not be more than 130 metres wide (whereas most of the easement would generally be 70 metres wide), and thus fragmentation of an existing population into two or more populations is considered unlikely.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species. However, Conservation Advice for *Synemon plana* (Golden Sun Moth) (DAWE, 2021f) states that habitat critical to the survival of the species likely includes:

- All native grasslands occupied by the species across its range.
- All occupied habitat is important for the breeding activity of a subpopulation and the recovery of the species.
- Large subpopulations or small, well-connected subpopulations occurring in high quality habitat would classify as important for the long-term maintenance of the species.
- High quality habitat for the species is defined as medium to large sites containing native grassland with an abundant component of forage species including *Rytidosperma* spp. and/or *Austrostipa* spp., with low weed cover, tussock cover with heterogenous bare earth, and land management reflecting the ecological value of the site.
- Sites occurring at or near the limit of the species ranges or sites a long distance from other subpopulations.

There are large areas of potential habitat within the project footprint. However, known habitat within the project footprint would be avoided where possible and a connectivity strategy implemented. Therefore, it is considered unlikely that the project would adversely affect habitat critical to the survival of the Golden Sun Moth.

Disrupt the breeding cycle of an important population

The project has the potential to disrupt the breeding cycle of the Golden Sun Moth. Due to the limited dispersal capability of the species, sites that are separated by 200 meters or more of unsuitable habitat are considered geographically isolated, individual subpopulations. Reduced habitat connectivity impedes females from recolonising areas and further isolates subpopulations and, in turn, reduces genetic exchange between subpopulations and the long-term viability of a subpopulation (DAWE, 2021f). However, known habitat within the project footprint would be avoided where possible and a connectivity strategy implemented. Ground layer vegetation will also be retained throughout much of the project footprint allowing for the persistence of the species within areas of potential habitat should it occur. It is therefore considered unlikely that the project would disrupt the breeding cycle of a Golden Sun Moth population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Known habitat within the project footprint would be avoided where possible and a connectivity strategy implemented. Ground layer vegetation would also be retained throughout much of the project footprint allowing for the persistence of the species within areas of potential habitat should it occur. It is therefore considered unlikely that the project will decrease habitat availability to such an extent that the species would decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is unlikely to result in invasive species that are harmful to Golden Sun Moth habitat.

Introduce disease that may cause the species to decline, or

No diseases are known to directly affect the Golden Sun Moth. However, various soil pathogens have the potential to affect the species larval food sources (ie *Rytidiosperma* spp., *Austrostipa* spp. and *Nassella trichotoma*). This risk would be mitigated via hygiene protocols stipulated in the Biodiversity Management Plan to be prepared for the project.

Interfere with the recovery of the species

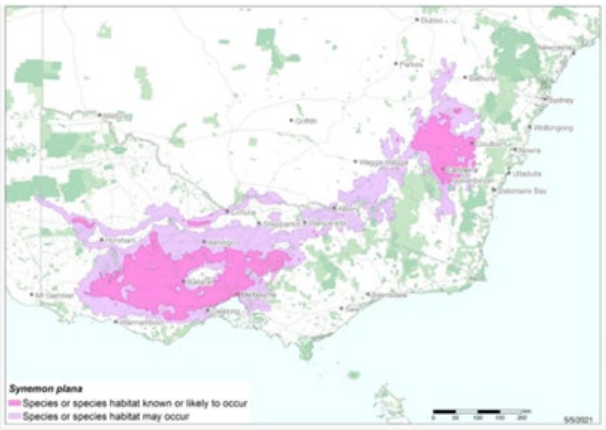
Once avoidance and mitigation measures detailed above are implemented, it is considered unlikely that the project would interfere with the recovery of the species.

Conclusion

It is considered that the project may potentially significantly impact the Golden Sun Moth, due to impacts to 38.63 ha of potential foraging and breeding habitat (including prescribed impacts) where the species presence has been assumed. Despite planned avoidance of known habitat where possible, residuals impacts are still considered likely. A summary of the NSW assessment bilateral requirements for Golden Sun Moth is presented in Table A18- 23.

Table A18- 23: NSW assessment bilateral requirements for Golden Sun Moth

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of suitable breeding and foraging habitat for the Golden Sun Moth, habitat critical for survival and relevant Commonwealth documents are provided above. A map showing the species modelled distribution is provided below, and a map showing the field verified locations of suitable habitat within the project footprint is provided in Attachment 1.

NSW Assessment Bilateral requirements	
	 Indicative distribution map of the known, likely to occur and may occur distributions of the Golden Sun Moth *Synemon plana* (DAWE, 2021f).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were in accordance with the Background Paper to EPBC Act Policy Statement 3.12 – Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*) (DEWHA, 2009). Surveys were conducted in areas of suitable habitat for the species, including those dominated by exotic Chilean Needlegrass *Nassella neesiana*. These habitats included all areas which have, or once had, native grasslands (including derived grasslands) or grassy woodlands within the historical range of the species. The historical range of the species was determined through literature and database reviews, and this was used to inform survey locations within the project footprint. Detailed methods and timing of the surveys can be found in Section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The national distribution of the Golden Sun Moth extends from western and southern Victoria through the south and central eastern New South Wales (see Indicative distribution map above); however, its relative area of occupancy is very small (DAWE, 2021f). There are no robust estimates available in the literature to determine the current population of the species. Within the project footprint, the species is known to occur in the Murrumbateman and Inland Slopes IBRA subregions with multiple sightings in suitable grassland habitat. The project has the potential to result in the loss of approximately 38.63 ha of foraging and breeding habitat (including prescribed impacts) and may reduce habitat connectivity between subpopulations of this species.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Golden Sun Moth: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid impacts to known or potential Golden Sun Moth habitat, including temperate grassland or open-box woodland with a ground layer dominated by Wallaby grass *Rytidosperma spp*. or Chilean Needlegrass *Nassella neesiana*. It is recommended that areas of known habitat are avoided, where feasible during detailed design. ▪ Avoid and mitigate habitat fragmentation (where feasible) and link gaps between known subpopulation sites that are less than 200 m via the development of a connectivity strategy.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	After the above avoidance and mitigation measures are implemented, it is considered that the project is unlikely to have a significant impact on the Golden Sun Moth.

NSW Assessment Bilateral requirements	
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Residual impacts to Golden Sun Moth would be offset under the NSW BOS. 254 species credits will be required. Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for Golden Sun Moth as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.NSW BOS.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Through making a payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.12 Bogong Moth (*Agrotis infusa*)

Whilst not an EPBC Act listed threatened species, the Bogong Moth's assessment should follow the information requirements for EPBC listed species that is listed under paragraph 17 of the Supplementary SEARs.

Description

From the *Noctuidae* family, *Rutidosis leiolepis*, commonly referred to as Bogong Moth is a large species of moth at a range of 5 cm long. The Bogong Moth varies in colour from light brown to almost black with characteristic marks on each forewing: namely a dark arrow-marked streak, broken by one round pale spot and one comma-shaped spot. Caterpillars are cream coloured at first until they end up grey, brown with a paler ventral surface. They pupate in a cocoon in their burrow under the soil for four weeks until the adult emerges (Herbison-Evans and Crossley, 2021).

The distribution of the Bogong Moth varies as it is a highly mobile species that migrates through the seasons. The species mainly breeds in pastureland west of the Great Dividing Range. During summer when the temperature is unfavourable the Bogong Moth migrate south to the cooler high country of the Great Dividing Range (Herbison-Evans and Crossley, 2021). They particularly congregate around the area of Mount Bogong in the Alpine National Park. Indicative distribution mapping from the Australian Museum (2022) indicates the southern portion of the project footprint, near Tumut as known and predicted distribution. Overall, the species is considered likely to occur within the project footprint.

The habitat required by the Bogong Moth includes pasture lands, caves, forests, and woodlands. This variety of habitat is required for the species to make their migration possible (Australian Museum, 2022).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan are not available for the Bogong Moth.

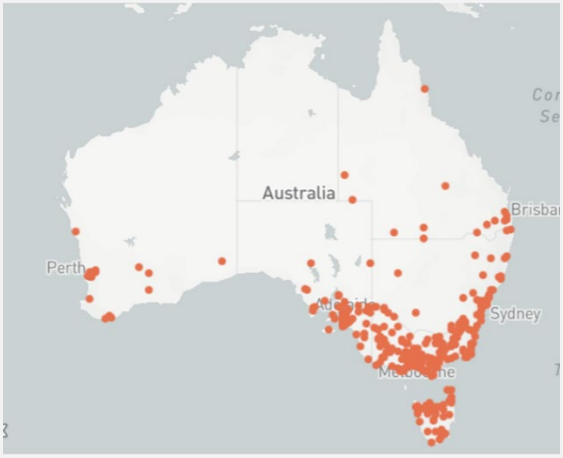
Specific Impacts

Key summer aestivation sites are generally found in the caves, boulder fields and tors of the Australian Alps (Green *et. al*., 2010). These sites are scattered across the south-eastern Australian alpine areas (limited to areas of the project footprint occurring the Snowy Mountains IBRA subregion) (Keaney, 2016).

Over the past decade, there has been a rapid decline in Bogong Moth numbers within the Australian Alps, and this likely due to several factors. In Green (*et al*. 2020) study, they reported a 99.5% decline in Bogong Moth numbers at alpine summer aestivation sites. It is possible, that severe drought and warmer temperatures during that period had impacted cave microclimates (maximum temperature for aestivation is 16°C) used by the species, restricting aestivation sites to higher altitudes. Further, caterpillars of Bogong Moth feeding in lowland sites are believed to ingest arsenate from agricultural sprays used against their weedy food plants amongst crops, and the developing migrant adults transport this to high altitudes. Analysis of soils washed out of aestivation sites revealed high levels of arsenic (Green *et al.,* 2021), possibly accumulated from larval food, and later released from the bodies of dead adult moths in the new environment. Other secondary threats include increased artificial light hampering migration efforts (Warrant and Dacke, 2016), and changes in agricultural practices, this includes the replacement of traditional agricultural land with cotton and rice monocultures that do not provide suitable larval host plants (Green *et al.,* 2021).

The Bogong Moth has a moderate likelihood of occurrence within portions of the project footprint during spring migration to summer aestivation sites in the Bogong Ranges. Adult moths during migration, are likely to forage on myrtaceous and proteaceous shrubs and trees, and agricultural crops (Warrant *et al.,* 2016) during this period. The project footprint also intersects 14.81 ha of potential karstic (cave-forming) geologies, which may provide suitable opportunistic, shelter (staging) sites for this species during spring migration to summer aestivation site. The project would result in the loss of approximately 1124.66 ha of potential foraging habitat for the species, and indirect impacts to 14.81 ha of potential sheltering habitats. There is also likely to be an increase in artificial lighting during construction of the project, however, the consequences of this would be relatively minor given construction would mostly be during daylight hours. A summary of the NSW assessment bilateral requirements for Bogong Moth is presented in Table A18- 24.

Table A18- 24: NSW assessment bilateral requirements for Bogong Moth

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	

NSW Assessment Bilateral requirements	
	Bogong Moth distribution (Atlas of Living Australia, 2022) The Bogong Moth occurs in pasture lands, caves, forests, and woodlands. This variety of habitat is required for the species to make their migration possible (Australian Museum, 2022). There is no current 'Important Populations' listed for the Bogong Moth. The species is known to congregate along the Great Dividing Range, particularly Mount Bogong in the Alpine National Park. There is no current defined 'Critical Habitat' for the Bogong Moth. The Bogong Moth does inhabit areas of the Great Dividing Range including Alpine National Park. These areas are not listed as 'Critical Habitat' for the species; however, their protection will serve as a direct benefit to the species.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	There are currently no established survey guidelines, nor recovery plan for Bogong Moth. However, the species been listed on the International Union for Conservation of Nature and Natural Resources. Bogong Moth has now been declared endangered by the world's leading scientific assessment of species vulnerability.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Bogong Moth has a moderate likelihood of occurrence within portions of the project footprint during spring migration to summer aestivation sites in the Bogong Ranges. Adult moths during migration, are likely to forage on myrtaceous and proteaceous shrubs and trees, and agricultural crops (Warrant *et al.,* 2016) during this period. The project footprint also intersects 14.81 ha of potential karstic (cave-forming) geologies, which may provide suitable opportunistic, shelter (staging) sites for this species during spring migration to summer aestivation site. The project would result in the loss of approximately 1124.66 ha of potential foraging habitat for the species, and indirect impacts to 14.81 ha of potential sheltering habitats. There is also likely to be an increase in artificial lighting during construction of the project, however, the consequences of this would be relatively minor given work would mostly be restricted to daylight hours. The area of occupancy for Bogong Moth cannot be defined given lack of knowledge on the species. Therefore, the extent of impact from the project on habitat is unknown on a national scale.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Bogong Moth is estimated at 998.67 ha of potential habitat removal.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Bogong Moth are considered likely to be not significant. As such offsets are not proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.

NSW Assessment Bilateral requirements	
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.13 Large-eared Pied Bat (*Chalinolobus dwyeri*)

The Large-eared Pied Bat is listed as Vulnerable under the EPBC Act and BC Act.

Description

The Large-eared Pied Bat is a small to medium-sized insectivorous bat, measuring approximately 100 mm from head to tail and weighing 7-12 grams. Its fur is glossy and black with broad, white stripes running along the wing and tail membranes on the ventral side of the torso, which meet in a V shape at the pubic area. It has prominent, large ears and is a wattled bat, with small lobes of skin between the ears and the corners of the mouth (OEH, 2017b; DAWE, 2021g).

The Large-eared Pied Bat is found from Rockhampton, QLD to Bungonia in the Southern Highlands, NSW in areas with extensive cliffs and caves (OEH, 2017b). Within this distribution, subpopulations are considered severely fragmented and isolated. In NSW, much of the known distribution occurs, with main strongholds in the Sydney sandstone and Pilliga regions (DAWE, 2021g). Scattered records exist from the New England Tablelands and Northwest Slopes (OEH, 2017b).

The Large-eared Pied Bat has been recorded foraging in a range of vegetation types, including dry and wet sclerophyll forest, grassy woodland, *Callitris* dominated forest, tall open eucalypt forest with a rainforest sub-canopy, subtropical rainforest, and small clearings adjacent to rainforest, sub-alpine woodland, and sandstone outcrop country. Although the diet of the species has not been investigated, its wing shape indicates manoeuvrable flight suggesting it likely feeds on small flying insects below the forest canopy (DAWE, 2021g; OEH, 2017b). The modelled distribution of the species is in close association with sandstone escarpments used for roosts and fertile valleys used for foraging. Valleys that support box gum woodland are strongly associated (DAWE, 2021g).

The species is also dependent on the presence of roosts for shelter, which are used at night when the bats are not feeding and to raise their young. They are known to roost in caves, overhangs, disused mine shafts and the abandoned nests of the Fairy Martin *Petrochelidon ariel*. Known breeding sites are limited and the structure of maternity roosts appears to be very specific, with females returning to the same site in successive years. Maternity roosts often occur in arched caves with domed and indented roofs, with bats clustering in these indentations likely to capture heat and need to be high and deep enough to allow juveniles to learn how to fly inside. These physical characteristics are uncommon in the landscape and are thought to limit the distribution of the species (DAWE, 2021g).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- Large-eared Pied Bat is listed as threatened under the assessment, dated 30 October 2022.
- Approved conservation advice for *Chalinolobus dwyeri* Large-eared Pied Bat, in effect under the EPBC Act, from 23 November 2021.
- Listing advice for *Chalinolobus dwyeri* Large-eared Pied Bat. In effect under the EPBC Act from 29 June 2012.
- National Recovery Plan for the Large-eared Pied Bat *Chalinolobus dwyeri*. In effect under the EPBC Act from 10 February 2012.
- No Threat Abatement Plan has been identified as being relevant for this species.

Relevant survey guidelines for this species include:

- *Survey Guidelines for Australia's Threatened Bats.* EPBC Act survey guidelines 6.1 (Department of the Environment, Water, Heritage and the Arts (DEWHA), 2010c)

Specific Impacts

No individuals or roosting sites were recorded within the project footprint during targeted surveys. The Large-eared Pied Bat has a medium likelihood of occurrence in the Bungonia IBRA subregion portion of the project footprint. The species is considered likely to occur based on the presence of suitable cliffline roosting and foraging habitats (associated PCTs) within the project footprint and multiple species records in the broader subregion. The species is considered to have a low likelihood of occurrence in the Inland Slopes IBRA subregion portion of the project footprint, based on a low number of species records in the locality, and lack of suitable habitat components to support the species.

The project would result in the direct loss of approximately 7.70 ha of potential habitat within the Bungonia IBRA subregion portion of the indicative disturbance area. Indirect impacts resulting from the project include increased edge effects and reduced connectivity. It has been acknowledged that new forest edges may act as barriers because they interrupt existing linear flyways, or because some species avoid lit, or open areas (Threlfall et al., 2011; Altringham and Kerth, 2016; Haddock et al., 2019). The maximum gap between new forest edges within the project footprint is likely to be between 70 to 80 metres. Despite this, the transmission lines are highly permeable structures, and a Connectivity Strategy would be implemented to mitigate any impacts of habitat fragmentation on this species.

The area of occurrence for Large-eared Pied Bat is estimated at 912,000 ha (DCCEEW, 2022ak3). The project has the potential to reduce the area of occurrence by less than 0.001%.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

This is a data deficient species; however, important populations of the Large-eared Pied Bat are thought to occur in the sandstone escarpments of the Hunter Valley, Sydney Basin and Southern Tablelands of NSW

(DERM, 2011). Within the project footprint, direct impacts would occur to 7.70 ha of potential roosting and foraging habitat in the Bungonia IBRA subregion portion of the indicative disturbance area (primarily associated with PCTs 1330 and 1093).

The project would result in the development of highly permeable structures, with the majority of work proposed to be above ground. Earthworks would be limited to general subsurface work in the locality of the transmission line structures, ancillary infrastructure, and access tracks and roads. Therefore, suitable rocky habitat for Large-eared Pied Bat would be avoided.

Large-eared Pied Bats may also be negatively affected by increased habitat fragmentation which may affect bat species assemblages, and interactions with transmission lines. However, the transmission lines are highly permeable, and a connectivity strategy would be implemented to mitigate impacts of habitat fragmentation on this species. Additionally, no individuals or roosting sites were recorded within the project footprint during targeted surveys.

It is therefore considered unlikely that the project will lead to the long-term decrease in the size of an important population of the Large-eared Pied Bat.

Reduce the area of occupancy of an important population

Due to the factors detailed above, a reduction in the area of occupancy of an important population of the Large-eared Pied Bat as a result of the project is considered unlikely.

Fragment an existing important population into two or more populations

Impacts to potential roosting habitat suitable for the Large-eared Pied Bat would be avoided. The project would result in the construction of transmission lines and associated infrastructure that would be highly permeable. These developments would not lead to any significant barriers that would limit the species use of potential forage habitat within or outside of the project footprint. A connectivity strategy would also be implemented to mitigate any impacts of habitat fragmentation on this species. Therefore, the fragmentation of an existing important population into two or more populations as a result of the project is considered unlikely.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat. This is a data deficient species and information on critical habitat is limited. However, the Recovery Plan of the Large-eared Pied Bat describes the following as critical habitat:

- Sandstone cliffs and fertile wooded valley habitat within proximity of each other
- Rainforests and moist eucalypt forest habitats on other geological substrates at high elevations
- Any maternity roosts.

Within the project footprint, impacts to sandstone escarpments will be avoided and no maternity roosts were found. Where possible, impacts to potential foraging habitat will be avoided and mitigated. Given the relatively small clearing of suitable forage habitat compared with that in the surrounding vegetation, the project is unlikely to adversely affect habitat critical to the survival of the species.

Disrupt the breeding cycle of an important population

Within the project footprint, there are no known roosting or breeding sites and impacts on potential roosting or breeding sites would be avoided. Due to this, it is considered unlikely that the project would disrupt the breeding cycle of an important population of the Large-eared Pied Bat.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in a relatively small clearing of potential habitat (7.70 ha) compared to that remaining in the surrounding vegetation, and the construction of highly permeable transmission lines and associated infrastructure. These developments would not lead to any significant barriers that would limit the species use of potential foraging habitat within or outside of the project footprint. For areas where potential cliffline habitats have been mapped, but were inaccessible during the field surveys, pre-construction surveys have been recommended to determine species absence/presence. If Large-eared Pied Bat individuals area identified during these surveys, adaptive safeguards to mitigate impacts (eg, avoidance/delineation of habitat) to roosting individuals would be implemented, where necessary and feasible. A connectivity strategy would also be implemented to mitigate any impacts of habitat fragmentation on this species (Attachment 21).

Due to these factors, it is considered unlikely that the project will modify, destroy, remove, or isolate or decrease the availability or quality of habitat to the extent that the Large-eared Pied Bat is likely to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

Threats to the Large-eared Pied Bat have not been thoroughly investigated. However, feral goats *Capra hircus*, and recreational cavers are known to disturb roosts, particularly in sandstone escarpment areas, which may cause roost abandonment. They are also likely predated by feral cats and European foxes (DERM, 2011). Vegetation clearing and increased habitat fragmentation may increase the predation and disturbance of the Large-eared Pied Bat by these species. Development of a pest species monitoring program may be required if there is a substantial occurrence of large intact remnants and threatened species habitat within or adjacent to the disturbance areas. Once mitigation measures are implemented, it is considered unlikely that the project would result in an invasive species becoming established in Large-eared Pied bat habitat.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species, this risk will be mitigated through hygiene protocols throughout the development and management of the project. It is considered unlikely that the project would introduce disease that may cause the Large-eared Pied Bat to decline.

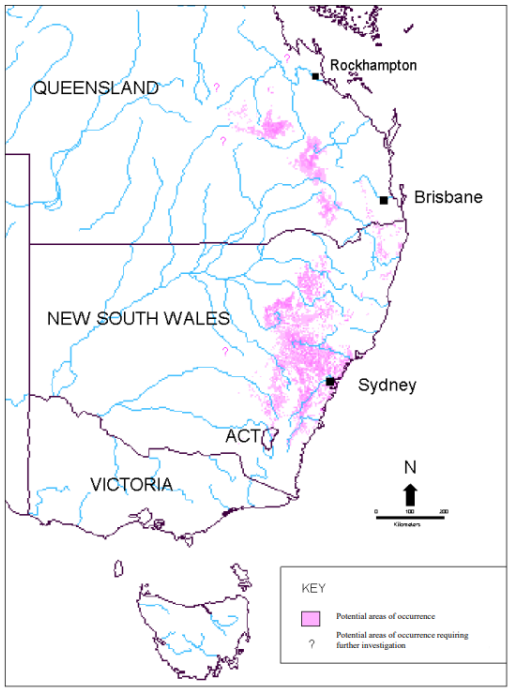
Interfere substantially with the recovery of the species.

The project does not interfere with any recovery plan actions for the Large-eared Pied Bat detailed in the National Recovery Plan for the species (DERM, 2011). The avoidance and mitigation measures described above will be implemented where practicable to reduce the potential impact of habitat fragmentation on the species as a result of the project. The project is considered unlikely to interfere with the recovery of the Large-eared Pied Bat.

Conclusion

In line with the above findings, the project is considered unlikely to have a significant impact on the Large-eared Pied Bat. A summary of the NSW assessment bilateral requirements for Large-eared Pied Bat is presented in Table A18- 25.

Table A18- 25: NSW assessment bilateral requirements for Large-eared Pied Bat

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 **Figure 1.** Modelled distribution of the large-eared pied bat in Australia (source: Fly by Night Surveys Pty Ltd 2005). **Current distribution map for Large-eared Pied Bat (DERM, 2011)** The "*National recovery plan for the large-eared pied bat Chalinolobus dwyeri*" (DERM, 2011) is the key recovery plan for this species. This Plan notes that Large-eared Pied Bat is dependent on the presence of diurnal roosts for shelter. Roosts are utilised during the day and also at night when not feeding, as well as for the raising of young. This bat has been known to roost in disused mine shafts, caves, overhangs, and abandoned fairy martin *Hirundo ariel* nests (Schulz, 1998). The value of mine shafts and disused fairy martin nests as roost sites has not been evaluated to date. From the type locality mines may offer important roost sites, particularly in areas where natural roosts are uncommon or absent. The number of known breeding sites is limited. The type locality at Copeton was used for breeding until flooded by dam waters (Dwyer 1962). A maternity roost has been observed in a sandstone cave near Coonabarabran, NSW (Pennay 2008), and another nearby in the Pilliga sandstone (M. Pennay pers. Comm., 2010). Any known maternity roosts, or sandstone cliffs and fertile wooded valley habitat within proximity of each other should be considered habitat critical to the survival of the species.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Targeted surveys for Large-eared Pied Bat, were in accordance with *Survey guidelines for Australia's threatened bats* (DAWE, 2010) and *'Species credit' threatened bats and their habitats - NSW survey guide for the Biodiversity Assessment Method* (OEHDPE, 2018). The targeted surveys, habitat mapping and desktop karst and cliffline mapping methodologies were in accordance with the BAM (DPE, 2020a) with a detailed habitat mapping method provided in Section 4.6 (fauna) of the BDAR. Targeted surveys were undertaken in accordance with the guidelines outlined above, and in line with the requirements of the BAM (DPE, 2020a) within the Bungonia IBRA subregion portion of the project footprint, in November and January (within the recommended months of survey).

NSW Assessment Bilateral requirements	
	Acoustic microbat surveys Passive ultrasonic bat detectors (Anabat Swift/ Anabat Express – Titley Scientific, Brendal QLD; or SM4Bat - Wildlife Acoustics, Inc., Maynard, MA USA) were used to record and identify the echolocation calls of microchiropteran bats foraging at each survey site. Passive monitoring of survey sites was achieved by setting bat detectors to record throughout the night. Calls were analysed by Greg Ford using AnalookW (Version 4.7) software with reference to 'Bat Calls of NSW: Region Based Guide to the Echolocation Calls of Microchiropteran Bats' (Pennay et al., 2004). Targeted survey effort for threatened microbat species is outlined in Table 4-17 of the BDAR. Acoustic surveys within the Bungonia, and Inland Slopes IBRA subregions were undertaken within the months of November and January (within the recommended survey period for the species). **Harp trapping** Although many *microchiropteran* bat species are detectable through call detection methodologies, the vocal differences between species such as *Nyctophilus* sp. are sometimes too subtle to reliably differentiate between the various species occurring in each locality. In addition, harp trapping can provide additional information on sex, age, reproductive status, and other characteristics that can be assessed. Such information is required for surveys targeting breeding habitat for dual credit species. Site selection for the setting of harp traps included several considerations including suitable flyways and target species roosting and foraging habitat requirements. Harp traps were set at each location over a two-night period between spring and summer months (surveys best conducted between October and April for most species). Captured bats were identified to species level, sexed, measured, and weighed. Bats were released immediately after processing during dark conditions. Targeted survey effort for harp trapping is outlined in Table 4-17 of the BDAR. Species targeted included: Southern Myotis (*Myotis macropus*), Large-eared Pied Bat (*Chalinolobus dwyeri*), Little Bent-winged Bat (*Miniopterus australis*) and Large Bent-winged Bat (*Miniopterus orianae oceanensis*). Harp trapping within the Bungonia, and Inland Slopes IBRA subregions were undertaken within the months of November and January (within the recommended survey period for the species). **Supplementary cliffline mapping** For cliff line mapping within the project footprint, a Digital Elevation Model (DEM) was developed using 5 m contour mapping and orthotiles. Areas considered high potential for overhangs were those with a slope greater than 45 degrees. The polygons produced by the slope filter were reviewed individually using high-resolution aerial imagery, review of nearby bat records (BioNet 2022) and on-the-ground data collection (habitat mapping, survey results, vegetation mapping etc). Polygons were considered high potential to support cliff line habitat if there was: • Presence of nearby (within 10 km) cave-dependant bat records (BioNet 2022) • Presence of cliff line habitat, and nearby suitable foraging resources endorsed by field data, and photos • Aerial interpretation showing signs of cliffs, steep gullies etc. Cliff line modelling was developed to identify potential roost sites for Large-eared Pied Bat. The closest known maternity sites for the Large-eared Pied bat includes a granitic mine tunnel in northern New South Wales (Dwyer, 1966a) and another sandstone cave in central New South Wales with a low ceiling providing stable temperatures at approximately 15º C (Pennay, 2008). At both sites, clusters of bats were observed roosting in ceiling indentations or cracks.

NSW Assessment Bilateral requirements	
	No known maternity roosts, or species records for Large-eared Pied Bat occur within the project footprint, or within 10 km of the project footprint. However, as a precautionary approach for this species, cliffline habitat has been mapped (determined by API, field collected data, geological mapping and a DEM using 5-m interval contour mapping).
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Within the project footprint, direct impacts would occur to 7.70 ha of potential roosting and foraging habitat in the Bungonia IBRA subregion portion of the project footprint (primarily associated with PCTs 1330 and 1093). The area of occupancy for Large-eared Pied Bat cannot be defined given lack of knowledge on the species. Therefore, the extent of impact from the project on potential Large-eared Pied Bat habitat is unknown on a national scale. The project would result in the development of highly permeable structures, with the majority of work proposed to be above ground. Earthworks would be limited to general subsurface work in the locality of the transmission line structures, telecommunication hut, substations, ancillary infrastructure, and access roads. Therefore, suitable rocky habitat for Large-eared Pied Bat would be avoided. Large-eared Pied Bats may also be negatively affected by increased habitat fragmentation which may affect bat species assemblages, and interactions with transmission lines. However, the transmission lines are a highly permeable structure, and a connectivity strategy would be implemented to mitigate any impacts of habitat fragmentation on this species. Additionally, no individuals or roosting sites were recorded within the project footprint during targeted surveys.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Large-eared Pied Bat: <u>Cliff line habitats</u> • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals <u>Vegetated corridors in proximity to cliff line habitats</u> • Development of a connectivity strategy to maintain landscape connectivity.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Large-eared Pied Bat is 7.7 ha of habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity) within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Large-eared Pied Bat are considered unlikely to be significant as detailed above. Residual impacts to Large-eared Pied Bat would be offset under the NSW BOS. 315 species credits would be required. Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for Large-eared Pied Bat as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.

NSW Assessment Bilateral requirements	
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.14 Spotted-tailed Quoll (*Dasyurus maculatus*)

The Spotted-tailed Quoll is listed as Endangered under the EPBC Act and Vulnerable under the BC Act.

Description

The Spotted-tailed Quoll is a nocturnal, cat-sized, carnivorous marsupial with reddish-brown fur and distinctive white spots over its back and tail (TSSC, 2020a). Males are 380–759 mm in head and body length, and females are 350–450 mm (TSSC, 2020a). Tail length is 370–550 mm for males and 340–420 mm for females (TSSC, 2020a). Males weigh up to 7 kg and females up to 4 kg although the mean weight range for male adults is 2.8–4.6 kg and 1.5–2 kg for females (TSSC, 2020a).

The Spotted-tailed Quoll occurs in eastern Australia from south-eastern Queensland to western Victoria (TSSC, 2020a). Populations are now fragmented and isolated and estimates of the decline range from 50–90 per cent for the mainland and 25–50 per cent for the population in New South Wales since European settlement (TSSC, 2020a). It has been extirpated from many parts of its former range, most notably including south-eastern South Australia (TSSC, 2020a).

The Spotted-tailed Quoll is carnivorous, feeding on a wide variety of prey such as small-medium sized (less than 5 kg) mammals, birds, reptiles, fish, amphibians, and invertebrates (TSSC, 2020a). The Spotted-tailed Quoll is a mainly forest dependent species but occurs in a variety of habitats including closed forests, tall eucalypt forests, open woodlands, open forests, drier rain shadow woodlands and coastal heathlands (TSSC, 2020a). During the day Spotted-tailed Quolls shelter in fallen logs, boulder piles, burrows, tree hollows and occasionally under dwellings (TSSC, 2020a).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- Approved conservation advice for the Spotted-tailed Quoll (TSSC, 2020a), in effect under the EPBC Act from 1 September 2020.
- There is an adopted recovery plan for this species (DELWP, 2016), in effect under the EPBC Act from 6 May 2016.

The following threat abatement plants have been identified as relevant for this species:

- *Threat abatement plan for predation by feral cats*, in effect under the EPBC Act from 23 July 2015.

- Threat abatement plan for predation by the European red fox, in effect under the EPBC Act from 1 October 2008.

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened mammals. EPBC Act survey guidelines 6.5 (Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC, 2011a).

Specific Impacts

The Spotted-tailed Quoll was not detected during field surveys, however it assumed present as it has a high likelihood of occurrence in the Bondo, Inland Slopes and Snowy Mountains IBRA subregions due to the presence of suitable habitat with moderate to high connectivity, and multiple records within 5 km of the project footprint (seven in Bondo, three in Inland Slopes and seven in Snowy Mountains). It also has a moderate likelihood of occurrence in Bungonia, Crookwell, and Murrumbateman IBRA subregions due to the presence of suitable habitat with moderate to high connectivity, and records within 20 km of the project footprint (three in Bungonia, one in Crookwell and one in Murrumbateman). The project would result in the loss of approximately 414.15 ha (17%) of potential habitat that may be impacted in the Bungonia, Bondo, Crookwell, Inland Slopes, Murrumbateman and Snowy Mountains IBRA subregions portion of the indicative disturbance area.

PCTs present in the project footprint that are associated with this species include PCT 5, 266, 268, 277, 278, 280, 283, 285, 287, 290, 295, 297, 299, 300, 306, 314, 316, 322, 343, 349, 351, 352, 638, 679, 731, 870, 939, 953, 1093, 1097, 1107, 1150, 1191, 1196, 1256 and 1330.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population

The project would result in the loss of approximately 414.15 ha of potential habitat. The long, linear transmission line would result in a >70 m easement clearing within these habitats. This species has a low abundance in cleared areas and is unlikely to persist in smaller patches of bushland due to their large home range (TSSC, 2020a). A small number of patches of contiguous bushland would be intersected by the project footprint and therefore the project has the potential to result in fragmentation of Spotted-tailed Quoll habitat.

Many prey species of the Spotted-tailed Quoll require tree hollows, and therefore habitat used by Spotted-tailed Quolls is influenced by the density of hollows. The removal of known or suitable hollows, and the fragmentation of known or suitable habitat are therefore potential threats to the persistence of the species' population within the project footprint and surrounding vegetation.

The project includes the development of a connectivity strategy, including vegetation steppingstones, retention of potential den habitat wherever practicable, and reduced clearing requirements. Given the large home range of this species, the relatively narrow area to be impacted, and the mitigation measures to minimise fragmentation impacts, it is considered unlikely that the project would result in the long-term decrease of a Spotted-tailed Quoll population.

Reduce the area of occupancy of the species

The area of occupancy of this species is estimated at 251,200 ha and the species range extends from southern Queensland to northern Victoria. Given that the project footprint is entirely located within NSW and not near the outer limits of the species range, it is unlikely that the project would reduce the area of occupancy of this species.

Fragment an existing population into two or more populations

While the area of habitat mapped for this species extends from southern Queensland to Northern Victoria, populations of this species are fragmented and isolated. Much of the project footprint is predominantly cleared of intact bushland. This species has a low abundance in cleared areas and is unlikely to persist in smaller patches of bushland due to their large home range (TSSC 2020a). A small number of patches of contiguous bushland would be intersected by the project footprint and therefore it is considered possible that the project may fragment an existing population into two or more populations. However, the implementation a connectivity strategy may reduce fragmentation impacts.

Adversely affect habitat critical to the survival of a species

The recovery plan for the Spotted-tailed Quoll states that habitat critical to the survival of the species includes large patches of forest with adequate denning resources and relatively high densities of medium-sized mammalian prey (DELWP, 2016). However, the recovery plan expands on this to say that it is currently not possible to define (or map) habitat critical to the survival of the Spotted-tailed Quoll because the threshold densities of these critical components are unknown. The project footprint is predominantly cleared of intact bushland, however a small number of patches of contiguous bushland would be intersected by the project footprint which may adversely affect critical habitat through fragmentation. The implementation a connectivity strategy may reduce fragmentation impacts.

Disrupt the breeding cycle of a population

Spotted-tailed Quolls require suitable den sites for breeding such as rocky crevices, caves or hollow logs. Habitat features such as rocky outcrops, surface rock, logs, would be retained wherever practicable, and impacts to karsts would be minimised. The project has the potential to fragment an existing population and therefore may disrupt the breeding cycle of this species, however the project is required to implement the connectivity strategy which would reduce the impacts of fragmentation from the project. As such, there is potential that the project would disrupt the breeding cycle of a population of Spotted-tailed Quolls.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project footprint is predominantly cleared of intact bushland, however a small number of patches of contiguous bushland would be intersected by the project footprint which may result in fragmentation of areas of suitable habitat. The implementation a connectivity strategy may reduce fragmentation impacts. Given that this species is unlikely to persist in smaller patches of bushland, the project has the potential to reduce the area of occupancy for this species, however the extent of this is likely to minor and therefore it is considered unlikely to cause the species to decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

The Spotted-tailed Quoll are speculated to be threatened by feral cats, European red foxes, and wild and domestic dogs through competitive and/or predatory interactions (DELWP, 2016). Given the ubiquity of

feral cats and foxes in the Australian environment, they are likely already present within the IBRA subregions associated with the species. It is discussed in DELWP (2016) that impacts of introduced predators are likely magnified in conjunction with other threatening processes such as severe land disturbance, degradation and associated fragmentation of the Spotted-tailed Quoll populations.

Development of a pest species monitoring program may be required if there is a substantial occurrence of large intact remnants and threatened species habitat within or adjacent to the disturbance areas.

Where the project results in fragmentation of intact areas of bushland, the project may result in invasive species becoming established in areas of the Spotted-tailed Quoll habitat as a result of the project.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species, this risk would be mitigated through hygiene protocols throughout the development and management of the project. It is considered unlikely that the project would introduce disease that may cause the Spotted-tailed Quoll to decline.

Interfere with the recovery of the species

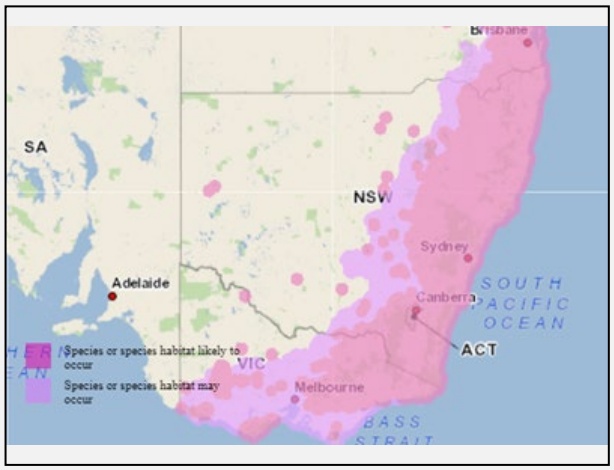
Although impacts would be localised to a small number of areas where the project footprint intersects contiguous bushland, and various avoidance and mitigation measures would be implemented to reduce the impact on the Spotted-tailed Quoll, the project would result in the clearing and fragmentation of suitable habitat. Given that the Recovery Plan for the Spotted-tailed Quoll identifies a specific objective of 'Reduce the rate of habitat loss and fragmentation on private land', the project has the potential to interfere with the recovery of the species.

Conclusion

The project is considered to have the potential to have a significant impact on the Spotted-tailed Quoll due to removal of 414.15 ha of potentially suitable habitat where it has been assumed present. A summary of the NSW assessment bilateral requirements for Spotted-tailed Quoll is presented in Table A18- 26.

Table A18- 26: NSW assessment bilateral requirements for Spotted-tailed Quoll

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below.

NSW Assessment Bilateral requirements	
	 Indicative distribution map of likely to occur and may occur distributions of the Spotted-tailed Quoll.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were in accordance with the Survey guidelines for Australia's threatened mammals, EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a). Methods included stagwatching, spotlighting and baited remote cameras in pockets of good quality habitat within all IBRA subregions. Detailed methods and timing of surveys can be found in Section 4.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The direct impacts of the project on the species include the removal of approximately 414.15 ha of foraging and denning habitat. The area of occupancy of the Spotted-tailed Quoll is estimated at 251,200 ha and the national distribution of this species extends from Victoria, along the southeast coast of NSW, through to the south-east coast of Queensland (see distribution map above). The project would impact 0.16% of Spotted-tailed Quoll habitat on a national scale. However, it must be noted that this species has a low abundance in cleared areas and is unlikely to persist in smaller patches of bushland due to their large home range.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Spotted-tailed Quoll: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the removal of habitat associated with the species, areas within large contiguous patches of bushland. ▪ Avoid and mitigate vegetation clearing to minimise habitat fragmentation and increase connectivity. If vegetation must be removed resulting in habitat fragmentation, vegetation stepping-stones are recommended to mitigate these impacts where feasible. • Development of a connectivity strategy.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Spotted-tailed Quoll is estimated at 414.15 ha of habitat removal. There is the potential for indirect impacts as a result of habitat removal and fragmentation to occur to any retained areas of Spotted-tailed Quoll habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to be potentially significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Spotted-tailed Quoll are considered likely to be significant as detailed above. Residual impacts to Spotted-tailed Quoll would be offset under the NSW BOS. Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for Spotted-tailed Quoll as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.

NSW Assessment Bilateral requirements	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required

2.3.15 Broad-toothed Rat (*Mastacomys fuscus*)

The Broad-toothed Rat is listed as Vulnerable under the EPBC Act and the BC Act.

Description

The broad-toothed rat has a broad face, short tail and stocky body. It has fine, dense fur, which is brown tinged with rufous above, merging to a paler grey underneath. The fur may have a green tinge due to the presence of algae. The ears are small and round with tufts of hair inside. The feet are brown above and below. The tail is lightly haired, dark above and becoming slightly lighter underneath. It has characteristically large molars in a rounded head, with well-developed cheeks and large jaw muscles. It has a head and body length of 14-17 cm and a tail length of 10-13 cm.

Specific impacts

The Broad-toothed Rat was not detected during field surveys, however it assumed present as it has a high likelihood of occurrence in the Snowy Mountains IBRA subregion. This is due to the presence of suitable foraging and nesting habitat within the project footprint and 10 species records within 5 km of the project footprint. The proposed project footprint will result in the loss of approximately 2.20 ha of potential habitat in the Snowy Mountains IBRA subregion.

One PCT associated with this species is present in the project footprint within the Snowy Mountains IBRA subregion; PCT 679.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for *Mastacomys fuscus* (Broad-toothed Rat) (TSSC, 2016c).
- There is no adopted or made Recovery Plan for this species.

Relevant adopted/made threat abatement plans include:

- Threat abatement plan for predation by feral cats. There is no adopted or made Recovery Plan for this species (DoE, 2015c).

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed under the *Environment Protection and Biodiversity Conservation Act 1999* (DSEWPaC, 2011a).

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

Suitable foraging habitat for the Broad-toothed Rat was found within the project footprint in the Snowy Mountains IBRA subregion. The species predominantly occupies alpine and subalpine environments, which are present within the project footprint in the Snowy Mountains IBRA subregion. No species records occur within the project footprint, and no individuals were found during targeted surveys. The project would not impact any of the Snowy Mountain subpopulation outlined by the Conservation Advice (TSSC, 2016c), as the project footprint is approximately 70 kilometres north of the locality. Furthermore, the project would result in a relatively low clearing of suitable foraging habitat (2.20 ha) compared to that remaining in the surrounding vegetation.

Where possible, impacts to heathy midstories, rocky habitats, grass tree skirts, ground cover and soils (habitats utilised by this species) would be minimised under the linear transmission line infrastructure. Due to the lack of records and that no individuals were found within the project footprint, direct mortality as a result of the project is considered unlikely. It is therefore considered unlikely that the project would lead to a long-term decrease in the size of a Broad-toothed Rat population.

Reduce the area of occupancy of an important population

The area of occupancy of this species is estimated at 44,400 ha and the species distribution extends across the Great Dividing Range from near Warburton (Victoria) to the Brindabella Range (Australian Capital Territory) and around Barrington Tops (New South Wales). The project footprint is near the northern extent of the species range with the exception of an isolated population around Barrington Tops (New South Wales). Therefore, there is potential for the project to reduce the area of occupancy of this species.

Fragment an existing important population into two or more populations

The area of habitat that would be removed as a result of the project occurs near the northern extent of the species main range and therefore is unlikely to increase fragmentation. The Broad-toothed Rat exists within a subpopulation in the Snowy Mountains, which has exhibited decline due to climate change and associated early snow thaw. However due to the factors outlined above, and the ability of the species to traverse the linear project infrastructure via retained midstories and ground cover, it is considered unlikely that an existing population of the Broad-toothed Rat would be fragmented into two or more populations.

Adversely affect habitat critical to the survival of a species

There is no Critical Habitat in NSW defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species.

The Conservation Advice (TSSC, 2016c) describes the Broad-toothed Rats preferred habitat as alpine and subalpine heathlands, grassland adjacent to boulder outcrops, swamps, sedgelands, coastal grassy or shrubby dunes, and sometimes forests with grassy understories. Suitable habitat has been identified in the project footprint. While no individuals were found or have been recorded within the project footprint there is potential for the project to impact the Snowy Mountain subpopulation. However, the project would result in a small area of clearing of suitable foraging habitat (2.20 ha) compared to that remaining in the surrounding vegetation. It is therefore considered unlikely that the project would adversely affect habitat critical to the survival of the Broad-toothed Rat.

Disrupt the breeding cycle of an important population

The key potential disruptions that could occur would be the potential for physical change in the habitat for the species associated with construction work that could remove native vegetation. The expected area to be impacted is 2.20 ha. The proposed vegetation removal is unlikely to disrupt the breeding cycle of the species in the long-term, as there will be other suitable habitats still in-tact in the project footprint and surrounding areas.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project would result in the removal of 2.20 ha of potential habitat. The project is considered unlikely to isolate or decrease habitat to an extent that leads to a decline in the species. Limited direct impacts to potential habitats for this species would occur and any indirect impacts would be localised. A number of mitigation measures have also been proposed to further mitigate the risk of indirect impacts. When this is considered in the context of existing landscape modification, the project is not likely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

A major threat to the Broad-toothed Rat is predation by introduced carnivores, including feral cats (*Felis catus*) and European red foxes (*Vulpes vulpes)* (TSSC, 2016c). Vegetation clearing and increased habitat fragmentation may increase predation by these species. Development of a pest species monitoring program may be required if there is a substantial occurrence of large intact remnants and threatened species habitat within or adjacent to the disturbance areas. Once mitigation measures are implemented, it is considered unlikely that the project would result in an invasive species becoming established in the Broad-toothed Rat habitat as a result of the project.

Introduce disease that may cause the species to decline, or

Dieback of understory heathlands due to the Cinnamon Fungus (*Phytophthora cinnamomi*) is listed as a minor threat to the Broad-toothed Rat (TSSC, 2016c). Whilst there is a risk that construction machinery and workers may disperse *P. cinnamomi* as well as other soil and plant pathogens, this risk would be mitigated through hygiene protocols throughout the development and management of the project. It is therefore considered unlikely that the would introduce a disease that may cause the Broad-toothed Rat to decline.

Interfere with the recovery of the species

The Conservation Advice (TSSC, 2016c) for the species specifies the following regarding recovery for the species:

"*There are no species-specific management actions in place for the broad-toothed rat (mainland). However, much of its current range lies within conservation reserves, including Kosciuszko National Park, Barrington Tops National Park, Victoria's Alpine National Park, Wilsons Promontory National Park and Great Otway National Park (Menkorst et al., 2008). Management plans have been developed for these reserves, and some include intensive and extensive management of threats to the subspecies such as predator control programs (Menkorst et al., 2008). This subspecies has also been the subject of a series of intensive research studies and some monitoring*."

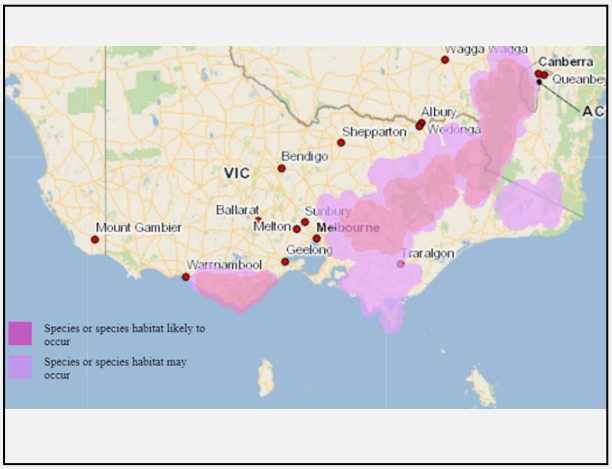
The project would not impede or interfere with any of the targeted recovery actions for this species.

Conclusion

In line with the above findings, the project is considered unlikely to have a significant impact on the Broad-toothed Rat due the relatively small area of habitat to be removed (2.20 ha) that would not impact critical habitat and in which areas of understorey and midstorey vegetation would be retained. In addition, the project footprint occurs near the northern extent of the species main range and therefore is unlikely to increase fragmentation.

A summary of the NSW assessment bilateral requirements for Broad-toothed Rat is presented in Table A18-27.

Table A18- 27: NSW assessment bilateral requirements for Broad-toothed Rat

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. Current distribution map for *Mastacomys fuscus mordicus* 
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys were in accordance with the Survey guidelines for Australia's threatened mammals, EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a). These included baited hair tube arrays, spotlighting and baited remote camera placed in pockets of good quality habitat within the SNO IBRA subregions. Detailed methods can be found in Section 4.6 of the BDAR.

NSW Assessment Bilateral requirements	
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Direct impacts of the project includes the removal of approximately 2.20 ha of habitat. The area of occupancy of this species is estimated at 44,400 ha. The project would impact <0.01% of the species area of occupancy.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	After the proposed activities are undertaken to avoid and mitigate these impacts, there is unlikely to be significant residual adverse impacts on the Broad-toothed Rat.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Broad-toothed Rat are considered likely to be not significant as detailed above. Residual impacts to Broad-toothed Rat would be offset under the NSW BOS. Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for Broad-toothed Rat as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required

2.3.16 Greater Glider (*Petauroides volans*)

The Greater Glider is listed as Endangered under the EPBC Act and BC Act.

Description

The Greater Glider (southern and central) is the largest gliding possum in eastern Australia. It has a primarily florivorous diet, mostly comprising of eucalypt leaves supplemented by buds and flowers. It has a head and body length of 35−46 cm, tail length of 45−60 cm, and a weight range of 900−1,700 g, with females being larger than males. The Greater Glider (southern and central) has thick fur that increases its apparent size. Its fur colour is white or cream below and varies from dark grey, dusky brown through to light mottled grey and cream above. It has a long furry tail, large furry ears and a short snout. Its tail is not prehensile, and the gliding membrane extends from the forearm to the tibia.

The Greater Glider has a broad distribution along the east coast of Australia. It is primarily associated with eucalyptus forests along the Great Dividing Range from northern QLD through to southern VIC and occurs from sea level to 1,200 m above (DCCEEW, 2022c; McGregor 2020). Its distribution appears to be restricted in the ACT, where the species is only known from the Lower Cotter Catchment and Namadgi National Park. The species formerly occurred in Booderee National Park but appears to have been extirpated from that location in the mid-late 2000s (DCCEEW, 2022c).

The Greater Glider is typically found in highest abundance in habitats with tall, montane, moist forests on fertile soils, with a high diversity of eucalyptus species, relatively old trees and an abundance of hollows. However, it can also be found in drier habitats. Within these forest types, the species' occurrence is positively correlated with foliage nutrients and abundance, canopy productivity, tree age, overstorey basal area, tree hollow abundance, patch size and connectivity (DCCEEW, 2022c). The species feeds from a restricted range of eucalyptus species which varies regionally.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- Approved conservation advice for *Petauroides volans* Greater Glider. In effect under the EPBC Act from 05 Jul 2022
- The committee recommends that there should be a recovery plan (02 May 2016).

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened mammals. EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a).

Specific Impacts

The Greater Glider was detected during field surveys within the project footprint in the Bondo (18 individuals), Bungonia (2 individuals) and Snowy Mountains (15 individuals) IBRA subregions in high condition, mature remnant vegetation. It also has a high likelihood of occurrence in the Inland Slopes IBRA subregion due to the presence of intact remnants with moderate to high connectivity and three records within 5 km of the project footprint. The project would result in the loss of approximately 109.25 ha of known habitat in the Bondo, Bungonia and Snowy Mountains IBRA subregions (including 0.05 ha of prescribed impacts) and 3.10 ha of potential habitat in the Inland Slopes IBRA subregion.

PCTs present in the project footprint that are associated with this species include PCT 5, 299, 300, 316, 351, 638, 727, 870, 952, 953, 1093, 1097, 1107, 1150, 1151, 1191, 1196 and 1330.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population

Greater Gliders are known within the project footprint in the Bondo, Bungonia and Snowy Mountains IBRA subregions in high condition, mature remnants during targeted surveys. The species also has a high likelihood of occurrence in the Inland Slopes IBRA subregion in intact remnants. The probability of species occurrence is positively associated with the presence of hollow-bearing trees. The project would result in

the loss of approximately 118.03 ha of potential habitat. The final width of the linear transmission line easement is likely to be 70 metres wide, with some discrete areas, being up to 130 metres wide. Clearing widths greater than 80 metres would exceed potential glide distances for the species and would pose a partial barrier to movement (Taylor and Goldingay 2009). The species has little ability to safely traverse cleared landscapes without the ability to glide (DCCEEW, 2022c).

The Greater Glider requires tree hollows for denning, with a preference for hollows >10 cm in diameter in large, old, live hollow-bearing trees (DCCEEW, 2022c). It also exhibits relatively small home ranges, which are commonly 1–3 ha but may reach up to 11 ha in hollow-limited environments (Taylor and Goldingay 2009). The removal of known or suitable hollows and the fragmentation of known or suitable habitat are therefore key threats to the persistence of the species' population within the project footprint and surrounding vegetation.

The project would develop a connectivity strategy, potentially including glider poles, vegetation steppingstone habitats and reduced clearing requirements. However, the impact to known and potential habitat is relatively large even with consideration of the surrounding vegetation. Due to this, the project may lead to a long-term decline in local Greater Glider populations.

Reduce the area of occupancy of the species

The area of occupancy of this species is estimated at 1,531,600 ha and the species distribution extends from around Proserpine in Queensland, south through NSW and the Australian Capital Territory, to Wombat State Forest in central Victoria. Given that the project footprint is entirely located within NSW and not near the outer limits of the species range, it is unlikely that the project would reduce the area of occupancy of this species. The project is likely to reduce Greater Glider area of occupancy by 0.007%.

Fragment an existing population into two or more populations

Greater Glider populations are sensitive to fragmentation, and the final width of the linear transmission line easement is likely 70 metres wide, with some discrete areas up to 130 metres wide. As described above, the species has little ability to traverse between cleared fragments and population viability is low in small remnants (DCCEEW, 2022c). The implementation of a connectivity strategy may reduce fragmentation impacts, however, given the scale of the project and the area of habitats impacted, it is considered that the project may fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the Greater Glider. However, habitat critical to the survival for the Greater Glider may be broadly defined as (DCCEEW, 2022d):

- Large, contiguous areas of eucalyptus forest containing mature hollow-bearing trees and a diverse range of the Greater Glider's preferred regional food species
- Smaller or fragmented habitat patches connected to larger patches of habitat that can facilitate the dispersal or recolonisation of the species
- Cool microclimate forest or woodland areas (eg, protected gullies, sheltered high elevation areas, coastal lowland areas, southern slopes
- Areas identified as refuges under future climate changes scenarios
- Short-term or long-term post-fire refuges (ie, unburnt habitat within or adjacent to recently burnt landscapes) that allow the species to persist, recover and recolonise burnt areas.

Irrespective of the abundance or density of the Greater Glider or perceived habitat quality, habitat meeting any of the above criteria is considered habitat critical to the survival of the species (DCCEEW, 2022d). Habitat meeting the above criteria occurs within the project footprint in the Bondo, Bungonia and Snowy Mountains IBRA subregions, which included high condition, mature remnants where the species was recorded. Therefore, it is considered likely that the project would impact habitat critical to the survival of the Greater Glider.

Disrupt the breeding cycle of a population

The project has the potential to disrupt the breeding cycle of the Greater Glider, due to the removal of known and potential habitat and the general 70 metres wide easement clearing for the installation of long, linear transmission lines which may fragment an existing population. However, the project is required to implement the connectivity strategy described in Chapter 14 of the BDAR. The connectivity strategy would reduce the impacts of fragmentation from the project, by improving connectivity between habitat fragments post construction and retain as many suitable hollows as practicable, allowing the species to connect and disperse across the landscape. However, the residual fragmentation and loss of habitat and hollows as a result of the project may lead to disruption of the breeding cycle of a Greater Glider population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Despite the implementation of the connectivity strategy described in Chapter 14 of the BDAR, considering the impact the project would have on the species habitat compared to that available in the surrounding environment, it is likely that the project would decrease habitat to the extent that the species is likely to decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

Greater Gliders are threatened by feral cats and European red foxes. Given the ubiquity of feral cats and foxes in the Australian environment, they are likely already present within the IBRA subregions associated with the species. However, vegetation clearing, and increased habitat fragmentation may increase predation of the Greater Glider by these species. Development of a pest species monitoring program may be required if there is a substantial occurrence of large intact remnants and threatened species habitat within or adjacent to the disturbance areas.

Greater Gliders are also threatened by over abundant native species that nest in tree hollows, such as Sulphur-crested Cockatoos (*Cacatua galerita*), which may take-over nest hollows in suitable habitat (DCCEEW, 2022c). Mitigation measures are required to reduce these impacts on the species, including retaining (where possible) hollow bearing trees and avoiding areas of high hollow-bearing tree density during detailed design. If hollows must be removed, nest boxes should be implemented, monitored and maintained.

Where the project results in fragmentation of intact areas of bushland, the project may result in invasive species becoming established in areas of the Greater Glider habitat as a result of the project.

Introduce disease that may cause the species to decline, or

No diseases are known to affect the Greater Glider.

Interfere with the recovery of the species

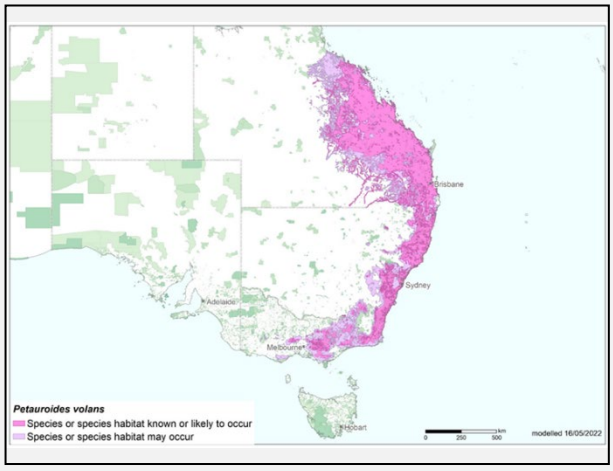
Although various avoidance and mitigation measures described above would be implemented to reduce the impact on the Greater Glider, the project would result in the clearing of known and suitable habitat. As outlined in the approved conservation advice for the Greater Glider (DCCEEW, 2022d), this habitat is considered critical to the survival of the species. It is therefore considered likely that the project would interfere with the recovery of the species.

Conclusion

Due to the factors described above, it is considered likely that the project would have a significant impact on the Greater Glider due to removal of approximately 109.25 ha of known habitat in the Bondo, Bungonia and Snowy Mountains IBRA subregions (including 0.05 of prescribed impacts on non-native habitats) where the species was recorded, and 3.10 ha of potential habitat in the Inland Slopes IBRA subregion where it has been assumed present and has a high likelihood of occurrence.

A summary of the NSW assessment bilateral requirements for Greater Glider is presented in Table A18- 28.

Table A18- 28: NSW assessment bilateral requirements for Greater Glider

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below.  Indicative distribution map of the known, likely to occur and may occur distributions of the Greater Glider *Petauroides Volans* (Base map Geoscience Australia; species distribution data Species of National Environmental Significance database as cited in DCCEEW, 2022c)
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were in accordance with the Survey guidelines for Australia's threatened mammals, EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a). Methods included stagwatching, spotlighting and baited remote cameras in pockets of good quality habitat within all IBRA subregions. Detailed methods and timing of surveys can be found in section 4.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The Greater Glider has a broad distribution along the east coast of Australia which is primarily associated with eucalyptus forests along the Great Dividing Range (see distribution map above). Throughout this range, its distribution may be patchy even in continuous areas of habitat. There are no robust estimates of the species population size available. Various known subpopulations in Victoria and NSW were

NSW Assessment Bilateral requirements	
	in ≥30% decline before the 2019-20 bushfires, which are expected to have had a significant negative impact on the remaining population (DCCEEW, 2022c). The species is known to occur within the project footprint in the Bondo, Bungonia and Snowy Mountains IBRA subregions in high condition, mature remnants and has a high likelihood of occurrence in the Inland Slopes IBRA subregions in intact remnants. The impacts of the project on the species includes the loss of approximately 109.25 ha of known habitat (including 0.05 ha of prescribed impacts) and 3.10 ha of potential habitat. The project would impact <0.01% of the species area of occupancy. The final width of the linear transmission line easement is likely to be 70 metres wide, with some discrete areas, being up to 130 metres wide. Clearing widths greater than 80 metres would exceed potential glide distances for the species and would pose a partial barrier to movement (Taylor and Goldingay 2009). The species has little ability to safely traverse cleared landscapes without the ability to glide (DCCEEW, 2022c).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Greater Gliders: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the removal of habitat associated with the species, particularly tall, relatively old eucalypts with hollows in relatively large fragments. If hollow bearing trees are removed, nest boxes must be installed and maintained. ▪ Avoid and mitigate vegetation clearing to minimise habitat fragmentation and increase connectivity. If vegetation must be removed resulting in habitat fragmentation, glider poles and vegetation steppingstones are required to mitigate these impacts. • Where practical, reduce clearing requirements in areas of known species occurrence (e.g., within cool microclimate forest or woodland areas) • Avoid and mitigate impacts on short-term or long-term post-fire refuges, (i.e., unburnt habitat within or adjacent to recently burnt landscapes that allow the species to persist and recolonise burnt areas • Mitigate the increased risk of predation by feral cats and European red foxes exacerbated by the project through the development of a pest species monitoring program where substantial large intact remnants and threatened species habitat occur within or adjacent to the disturbance areas..
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Greater Glider is estimated at 109.25 ha of known habitat removal and 3.10 ha of potential habitat removal. There is the potential for indirect impacts (such as edge effects) to occur to any retained areas of known or potential habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to 109.25 ha of known habitat and 3.10 ha of potential habitat are considered likely to be significant as detailed above. Residual impacts to 109.25 ha of known habitat and 3.10 ha of potential habitat would be offset under the NSW BOS. 359 species credits would be required, as detailed in Chapter 15 of the BDAR. Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Greater Glider as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.

NSW Assessment Bilateral requirements	
	The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required

2.3.17 Yellow-bellied Glider (*Petaurus australis*)

The Yellow-bellied Glider is listed as Vulnerable under the EPBC Act and BC Act.

Description

The Yellow-bellied Glider is a medium-sized arboreal marsupial, the largest Australian petaurid and the second largest Australian glider. The head and body length have a range of 240–310 mm, with a 380–470 mm long tail. The body is a greyish-brown colour with a black stripe running down the back and extending to the tail. The tail is mostly black with grey edging at the base. Males weigh 470–725 g and females weigh 435–660 g, though the head and body length of males is only marginally longer than that of females, and females have longer tailed. The belly is white to yellow, typically paler in young individuals and becoming more yellow with age. There are black markings on the feet, with a black stripe running down each thigh.

The Yellow-bellied Glider (south-eastern) is found at altitudes ranging from sea level to 1400 m above sea level and has a widespread but patchy distribution from south-eastern Queensland (Qld) to far south-eastern SA, near the SA-Vic border. In NSW, it predominantly occurs in forests along the eastern coast, from the NSW-Qld border to the NSW-Vic border. However, the distribution also extends inland to the western slopes of the Great Dividing Range in parts of NSW and Qld.

The Yellow-bellied Glider (south-eastern) occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. The subspecies shows a preference for large patches of mature old growth forest that provide suitable trees for foraging and shelter. There is also a clear preference for forests with a high proportion of winter-flowering and smooth-barked eucalypts. Smooth-barked eucalypts are important due to the range of foraging substrates (and therefore food resources) they provide, as loose bark hanging in strips from these trees provides shelter for insect prey. Yellow-bellied gliders (south-eastern) also require some level of floristic diversity to provide a year-round food supply, and they are unlikely to persist in forests dominated by only one or two tree species. Many tree species are found in the subspecies' habitat, with some used for sap feeding.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- Approved Conservation Advice for *Petaurus australis* Yellow-bellied Glider (DAWE, 2022c) in effect under the EPBC Act from 02 March 2022.
- The committee recommends that there should be a recovery plan (16 March 2022).
- No Threat Abatement Plans has been identified as being relevant with this species.

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened mammals. EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a).

Specific Impacts

The Yellow-bellied Glider was detected during field surveys within the project footprint in the Bondo (10 individuals), Inland Slopes (1 individual) and Snowy Mountains (19 individuals) IBRA subregions in high condition, mature remnant vegetation. It also has a high likelihood of occurrence in the Bungonia IBRA subregion due to the presence of suitable intact remnants with moderate to high connectivity and nine records within 20 km of the project footprint including one within 5 km. The project would result in the loss of approximately 167.96 ha (22%) of known habitat in the Bondo, Inland Slopes and Snowy Mountains IBRA subregions and 50.63 ha (7%) of potential habitat in the Bungonia IBRA subregion portion of the indicative disturbance area.

PCTs present in the project footprint that are associated with this species include PCT 299, 300, 351, 638, 731, 870, 952, 953, 1093, 1097, 1107, 1150, 1191, 1196 and 1330.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

Yellow-bellied Gliders are known within the project footprint in the Bondo, Inland Slopes and Snowy Mountains IBRA subregions in high condition, mature remnants (recorded during targeted surveys). The species also has a high likelihood of occurrence in the Bungonia IBRA subregion in intact remnants. The project would result in the loss of approximately 167.96 ha of known habitat and 50.63 ha of potential habitat.

The Yellow-bellied Glider prefer denning in living hollow-bearing trees. Groups live in large, exclusive home ranges as foraging substrates are dispersed and variable through time and space. Large areas of forest are required to maintain population viability. The removal of known or suitable hollows and the fragmentation of known or suitable habitat are therefore key threats to the persistence of the species' population within the project footprint and surrounding vegetation (DAWE, 2022c).

The probability of this species' occurrence is positively associated with the presence of hollow-bearing trees. The final width of the linear transmission line easement is likely to be 70 metres wide, with some discrete areas, being up to 130 metres wide. Clearing widths greater than 80 metres would exceed

potential glide distances for the species and would pose a partial barrier to movement (Taylor and Goldingay 2009). The species has little ability to safely traverse cleared landscapes without the ability to glide (DCCEEW, 2022c).

The project includes the development of a connectivity strategy, including glider poles, vegetation steppingstone habitats and reduced clearing requirements. However, the impact to known and potential habitat is relatively large even with consideration of the surrounding vegetation. Due to this, there is potential for the project to result in the long-term decrease of a Yellow-bellied Glider population.

Reduce the area of occupancy of an important population

The area of occupancy of this species is estimated at 1,272,400 ha and the species distribution extends from south-eastern Queensland to far south-eastern South Australia. In NSW, it predominantly occurs along the eastern coast, however, the distribution also extends inland to the western slopes of the Great Dividing Range. As the Project will impact upon a total of 218.59 ha of known and potential habitat, itis likely to result in a 0.02% loss of Yellow-bellied Glider habitat on a national scale. The project footprint is located near the western extent of the species distribution in NSW, there is potential for the project to reduce the area of occupancy of this species, within the western extent of its known distribution.

Fragment an existing important population into two or more populations

Yellow-bellied Glider populations are sensitive to fragmentation, and the final width of the transmission line easement will be 70 metres wide, with some discrete areas, being greater than 80 metres wide.. As described above, the species has little ability to traverse between cleared fragments and population viability is low in small remnants (DAWE, 2022c). The implementation a connectivity strategy may reduce fragmentation impacts, however, given the scale of the project and the area of habitats impacted, it is considered that the project may fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the Yellow-bellied Glider. However, habitat critical to the survival for the Yellow-bellied Glider may be broadly defined as (DAWE, 2022c):

- large contiguous areas of floristically diverse eucalypt forest, which are dominated by winter-flowering and smooth-barked eucalypts, including mature living hollow-bearing trees and sap trees (see Appendix A)
- areas identified as refuges under future climate change scenarios
- short or long-term post-fire refuges (ie, unburnt habitat within or adjacent to recently burnt landscapes) that allow the species to persist, recover and recolonise burnt areas
- habitat corridors required to facilitate dispersal of the subspecies between fragmented habitat patches and/or that enable recolonization or movement away from threats. Yellow-bellied gliders (south-eastern) have a glide ratio (horizontal distance/height dropped) of around 2.0, and corridors spanning gaps larger than the distance gliders are likely to be able to travel should be considered critical to the survival. There is not enough evidence to define the canopy and width characteristics of appropriate corridors. In the absence of such information, a precautionary approach should be taken to maximise dispersal by considering all habitat corridors in the species' range to be habitat critical to the survival; and
- areas in which some trees have evidence of use for sap extraction by yellow-bellied glider (south-eastern).

Irrespective of the abundance or density of the Yellow-bellied Glider or perceived habitat quality, habitat meeting any of the above criteria is considered habitat critical to the survival of the species (DAWE 2022c). Habitat meeting the above criteria occurs within the project footprint in the Bondo, Bungonia, Inland Slopes and Snowy Mountains IBRA subregions, which included high condition, mature remnants where the species was recorded. Therefore, it is considered likely that the project would impact habitat critical to the survival of the Yellow-bellied Glider.

Disrupt the breeding cycle of an important population

The project has the potential to disrupt the breeding cycle of the Yellow-bellied Glider, due to the removal of known and potential habitat and the general 70 metres wide easement clearing for the installation of long, linear transmission lines which may fragment an existing population. However, the project is required to implement the connectivity strategy described in Section 13 of the BDAR. The connectivity strategy would reduce the impacts of fragmentation from the project, by improving connectivity between habitat fragments post construction and retain as many suitable hollows as practicable, allowing the species to connect and disperse across the landscape. However, the residual fragmentation and loss of habitat and hollows as a result of the project may lead to disruption of the breeding cycle of a Yellow-bellied Glider population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Despite to the implementation of the connectivity strategy described in Chapter 14 of the BDAR, considering the impact the project would have on the species habitat compared to that available in the surrounding environment, it is likely that the project would decrease habitat to the extent that the yellow-bellied Glider is likely to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

A major threat to this species is predation by introduced carnivores, including feral cats (*Felis catus*) and European red foxes (*Vulpes vulpes)* (DAWE, 2022c). Vegetation clearing and increased habitat fragmentation may increase predation by these species. Development of a pest species monitoring program may be required if there is a substantial occurrence of large intact remnants and threatened species habitat within or adjacent to the disturbance areas. . Once mitigation measures are implemented, it is considered unlikely that the project would result in an invasive species becoming established in the Yellow-bellied Glider habitat as a result of the project.

Introduce disease that may cause the species to decline, or

No diseases are known to affect the Yellow-bellied Glider. Whilst there is a risk that construction machinery and workers may disperse diseases as well as other soil and plant pathogens, this risk will be mitigated through hygiene protocols throughout the development and management of the project. It is therefore considered unlikely that the project would introduce a disease that may cause these species to decline.

Interfere substantially with the recovery of the species

The Conservation Advice (DAWE, 2022c) for the species specifies the following regarding recovery for the species:

- Habitat loss, disturbance and modifications (including fire)
  - Ensure suitable habitat is maintained and protected from known threats (such as high severity bushfires) around important subpopulations, as well as in areas where subpopulations have already declined through loss of habitat. When protecting an area, retain sufficient suitable habitat for subpopulation viability.
  - Avoid planned burns, clearing, timber harvesting or other disturbance in a 65-ha zone around habitat which has been burnt in the past 10 years.
  - Re-assess and revise current prescriptions used for prescribed burning to ensure that the frequency and severity of all fires are minimised, to mitigate the risk of further population decline.
  - Maintain current effective prescriptions in production forests where the yellow-bellied glider (south-eastern) is found to support subpopulations of the species, and, if necessary, establish new prescriptions. This includes but is not limited to appropriate levels of timber harvesting exclusion and timber harvesting rotation cycles, maintenance of wildlife corridors between logged patches, active protection of existing sap trees and hollow-bearing trees from known threats, adequate recruitment of hollow-bearing trees, and maintained use of variable retention systems and selective harvesting systems designed to protect hollow-bearing trees.
  - Construct artificial hollows in areas of low hollow availability, utilising appropriate nest boxes and/or chainsaw hollows, the latter of which have the potential to restore degraded habitat and may be used more by arboreal marsupials than nest boxes (Terry et al. 2021).
  - Restore connectivity in subpopulations fragmented by major roads, including the use of artificial structures such as rope bridges and glide poles.
  - If possible, avoid the use of barbed wire and modify existing barbed wire by replacing the top strand of barbed wire with plain or plastic-coated wire (Clancy & Land for Wildlife 2011).
- Climate change
  - Protect all habitat projected to be suitable as refuge sites under future climate change scenarios (as informed by research) and maintain and establish connectivity to facilitate movement where possible.
- Invasive species (including threats from grazing, trampling, predation)
  - If required, implement control measures for introduced predators, including the European red fox and feral cat, in areas burnt by bushfires. The control of introduced herbivores (eg, feral deer) may also aid habitat recovery.

The project would impede or interfere with targeted recovery actions for this species via interrupted connectivity.

Conclusion

In line with the above findings, the project is considered likely to have a significant impact on the Yellow-bellied Glider due to removal of approximately 167.96 ha of known habitat in the Bondo, Inland Slopes and Snowy Mountains IBRA subregions where the species was recorded, and 50.63 ha of potential habitat in the Bungonia IBRA subregion where it has been assumed present.

A summary of the NSW assessment bilateral requirements for Yellow-bellied Glider is presented in Table A18- 29.

Table A18- 29: NSW assessment bilateral requirements for Yellow-bellied Glider

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below. Current distribution map for the Yellow-bellied Glider (Base map Geoscience Australia; species distribution data Species of National Environmental Significance database as cited in DCCEEW, 2022e)
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Field surveys were in accordance with the Survey guidelines for Australia's threatened mammals, EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a). Methods included stagwatching, spotlighting and baited remote cameras in pockets of good quality habitat within all IBRA subregions. Detailed methods and timing of surveys can be found in Section 4.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The project would clear 167.96 ha of known habitat and 50.63 ha of potential habitat for this species. The area of occupancy of the Yellow-bellied Glider is estimated at 1,272,400 ha (see distribution map above). The project would impact 0.02% of known and potential habitat for this species on a national scale.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Yellow-bellied Gliders: • Micro-siting during detailed design and pre-clearance surveys to: ▪ Avoid and mitigate the removal of habitat associated with the species, particularly tall, relatively old eucalypts with hollows in relatively large fragments. If hollow bearing trees are removed, nest boxes must be installed and maintained. ▪ Avoid and mitigate vegetation clearing to minimise habitat fragmentation and increase connectivity. If vegetation must be removed resulting in habitat fragmentation, glider poles and vegetation steppingstones are required to mitigate these impacts. • Where practical, reduce clearing requirements in areas of known species occurrence (e.g. within cool microclimate forest or woodland areas) • Avoid and mitigate impacts on short-term or long-term post-fire refuges, (i.e., unburnt habitat within or adjacent to recently burnt landscapes that allow the species to persist and recolonise burnt areas • Mitigate the increased risk of predation by feral cats and European red foxes exacerbated by the project through the development of a pest species monitoring program where substantial large intact remnants and threatened species habitat occur within or adjacent to the disturbance areas.
Identification of significant residual adverse impacts likely to occur after the	The residual impact to the Yellow-bellied Glider is estimated at 167.96 ha of known habitat removal and 50.63 ha of potential habitat removal. There is the potential for indirect impacts (such as edge effects) to occur to any retained areas

NSW Assessment Bilateral requirements	
proposed activities to avoid and mitigate all impacts are taken into account	known and potential habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures noted above. The residual impact to this species was considered to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Yellow-bellied Glider are considered likely to be significant as detailed above. Residual impacts to the Yellow-bellied Glider would be offset under the NSW BOS. Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for the Yellow-bellied Glider as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required

2.3.18 Koala (*Phascolarctos cinereus*)

The Koala is listed as endangered under the EPBC Act and BC Act.

Description

The Koala is a medium-sized, arboreal marsupial with variable fur that can range from grey to brown above and is white below. Its body is stocky, with large rounded, furry ears, a prominent black nose, long sharp claws for climbing and spends most of its time in trees. Typically, males are larger than females; adult males weigh between 6-12 kg while females are between 5 – 8 kg (NSW OEH, 2022; DAWE, 2022d). The Koala's morphology gradually changes from the north to the south of its range. For example, the average weight of an adult male in Victoria is 12 kg, while in Queensland it is 6.5 kg. Southern populations are also characterised by long, thick brown-grey fur compared to northern populations, which have shorter, silver-grey fur (NSW OEH, 2022; DAWE, 2022d). Males have a distinct advertisement call during breeding, characterised by loud, low snarling coughs and bellows (NSW OEH, 2022).

The Koala typically occurs in eastern Australian forests and woodlands (DAWE, 2022d). Its distribution is not continuous across its range and it occurs in several subpopulations that are separated by cleared land or unsuitable habitat (DAWE, 2022d). The natural range of the Koala is determined by specialist food, habitat

and environmental requirements, which typically includes forests and woodlands dominated by Eucalyptus species (DAWE, 2022d). The Koala's home range is highly variable and dependant on life history stage, soil fertility, habitat quality and nutritional requirements, with home ranges in Queensland and New South Wales reported to vary between 3 and 500 ha (DAWE, 2022d).

The Koala's distribution and population size have declined significantly since European colonisation (DAWE, 2022d). Much of the Koala's national distribution now overlaps with human-modified landscapes (DAWE, 2022d). Vegetation clearance from activities including urbanisation, grazing, agriculture and mining have significantly reduced the Koala's distribution (DAWE, 2022d). Climate change drivers (eg, drought and rising temperatures) have also resulted in a reduction in climatically suitable habitat (DAWE, 2022d).

Koalas are tree-dwelling, obligate folivores (leaf eaters) with a highly specialised diet (DAWE, 2022d). The Koala's diet is defined by the availability and palatability of a limited variety of Eucalyptus, Corymbia and Angophora species (DAWE, 2022d). Koalas are nocturnal and spend significant periods of time moving across the ground between food and shelter trees, especially in the breeding season (typically September to February) (DAWE, 2022d). While Koalas are reported to utilise more than 400 different species of tree for their food and habitat, primary food species differ across habitats and may be as few as two at a particular location (DAWE, 2022d). Koala browsing preferences show regional differences which are influenced by the chemical profiles and water content of different target food leaves (DAWE, 2022d).

A population of Koalas requires a sufficient total amount of resources within their habitat of adequate quality to support a viable biological population (DAWE, 2022d). Crucial habitat elements include patches and corridors for gene flow (DAWE, 2022d). Over longer-time frames critical habitat includes climate refugia such as drainage lines, riparian zones and patches that are resilient to drying conditions due to favourable hydrological systems (DAWE, 2022d). Additionally, it includes areas that may be temporarily unoccupied and are available for future recolonisation (DAWE, 2022d).

Currently there is insufficient knowledge and data to effectively identify habitat critical to the survival of the Koala (DAWE, 2022d).

The conservation advice for Koalas (DAWE, 2022d) defines important populations as those that:

- have the potential to act as source populations to adjacent areas of suitable, or potentially suitable, habitat
- exist in areas of climatically suitable refugia during periods of environmental stress including droughts, heatwaves, and long-term climate change
- are genetically diverse
- are disease free and/or exhibit low rates of infection with important pathogens
- contain genes which may confer adaptation to current and future environmental stressors
- are geographical or environmental outliers within the species range.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for the Koala (DAWE, 2022d), in effect under the EPBC Act from 12 February 2022.

- National recovery plan for the Koala (DAWE, 2022e), in effect under the EPBC Act from 8 April 2022.
- No Threat Abatement Plan has been identified as being relevant for the species.
- EPBC Act referral guidelines for the vulnerable koala (DoE, 2014c).

Specific Impacts

The Koala was not detected during field surveys, however it assumed present as it has a high likelihood of occurrence in the Bungonia IBRA subregion due to the presence of suitable habitat with moderate to high connectivity, 34 records within 20 km of the project footprint and proximity to a known source population (3.5 km). It also has a moderate likelihood of occurrence in the Bondo, Crookwell, Inland Slopes, Murrumbateman and Snowy Mountains IBRA subregions due to the presence of suitable habitat with moderate to high connectivity, and multiple records within the broader IBRA subregions (six in Bondo, 10 in Crookwell, 89 in Inland Slopes 15 in Murrumbateman and two in the Snowy Mountains) including records within 5 km of the project footprint in the Bondo (two), Crookwell (two), Inland Slopes (three) and Murrumbateman (one) IBRA subregions.

Vegetation clearing for the installation of transmission lines and associated infrastructure may reduce the availability of Eucalyptus dominated woodland and forests containing foraging and shelter resources potentially used by Koalas. Potential direct impacts include species injury or mortality during clearing and construction works. An area of approximately 418.40 ha of potential habitat, including 19.40 ha of high potential foraging and shelter habitat for this species in the Bungonia IBRA subregion, and 399.00 ha of moderate potential foraging and shelter habitat for this species in the Bondo, Crookwell, Inland Slopes, Murrumbateman and Snowy Mountains IBRA subregions would be impacted by the project.

PCTs present in the project footprint that are associated with this species include PCT 5, 266, 268, 277, 278, 280, 283, 285, 287, 290, 294, 295, 296, 297, 299, 300, 301, 306, 314, 316, 322, 335, 343, 349, 351, 352, 638, 679, 727, 731, 870, 939, 953, 1093, 1097, 1107, 1150, 1151, 1191, 1196 and 1330.

The Koala's distribution is not continuous across this range, and it occurs in a number of populations that are separated by cleared land or unsuitable habitat (DAWE, 2022d). Consequently, the Koala's total area of occupancy is lower than its extent of occurrence. The total area of occupancy is not known, but it would not be low enough to be considered very restricted, restricted or limited.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The species was not recorded during field surveys but are considered likely to occur based on the high number of local records and the occurrence of Koala feed tree species within the project footprint, including preferred species such as Grey Gum (*Eucalyptus punctata*), Blakely's Red Gum (*Eucalyptus blakelyi*), Brittle Gum (*Eucalyptus mannifera*), and Ribbon Gum (*Eucalyptus viminalis*).

Habitat to be removed within the clearance footprint is subject to varying degrees of disturbance and varied conditions. The project would require the removal of portions of Koala use trees where the clearance alignment intersects. About 418.40 ha of native vegetation (including Koala use trees) is estimated to occur within in the indicative disturbance area and would be directly impacted.

Areas of regional koala significance (ARKS) use the information on koala occurrence to identify key koala populations and management areas with potential long-term viability. No ARKS intersect the project footprint; the closest ARKS is located in Bungonia. The nearest point of the ARKS is approximately 3.5 km from the project footprint, however, the ARKS spans over 353,546 ha and only around 13% of it occurs within the Bungonia IBRA subregion. The majority of the Bungonia ARKS occurs within the Ettrema, Burragorang, Moss Vale, Cumberland, Sydney Cataract, and Illawarra IBRA subregions.

Portions of the project footprint connect to large intact continuous habitat (managed native forests), providing continuous habitat within the broader locality. The project is considered to potentially lead to a long-term decrease in the local population based on overall carrying capacity as determined by the availability of feed trees. However, the decline is likely to be minor considering the large surrounding area of vegetation that would not be impacted by the project.

Reduce the area of occupancy of the species

The area of occupancy of this species is estimated at 1,940,000 ha and the distribution of the listed population extends from the coastal and inland areas of Queensland, through New South Wales and the Australian Capital Territory. Other populations, which are not listed as threatened under the EPBC Act, occur to the south, in Victoria and South Australia. Given that the project footprint is not located near the outer limits of the species range, it is unlikely that the project would reduce the area of occupancy of this species.

Fragment an existing population into two or more populations

Koala populations are of low density, widespread and fragmented in many locations. The project would increase fragmentation of remnants, through the removal of native vegetation for the proposed transmission line and associated infrastructure. A small number of patches of contiguous bushland would be intersected by the project footprint. The species has a large home range. The area of clearing is relatively narrow when compared to adjacent similar habitat, and is situated in a landscape already subject to extensive historical clearing. The increase in fragmentation may influence Koala movement and habitat use throughout the regions however the extent of impact in this regard is likely to be limited given no hard barriers to Koala movement would be introduced from the project. The implementation a connectivity strategy may reduce fragmentation impacts, however, given the scale of the project and the area of habitats impacted, it is considered that the project may fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

As defined in the conservation advice for Koala, habitat critical to the survival of the species is defined as the areas that the species relies on to avoid or halt decline and promote the recovery of the species (DAWE 2022d). Given that records of the species are found in all cardinal directions of the project footprint, all native vegetation within the project footprint is considered habitat critical to the survival of the species.

The project footprint does not occur within any Areas of Regional Koala Significance (ARKS). Bungonia is the only IBRA subregion that will be impacted by the project which contains an ARKS (also called Bungonia). The nearest point of the ARKS is approximately 3.5 km from the project footprint, however, the ARKS spans over 353,546 ha and only around 13% of it occurs within the Bungonia IBRA subregion. The majority of the Bungonia ARKS occurs within the Ettrema, Burragorang, Moss Vale, Cumberland, Sydney Cataract, and Illawarra IBRA subregions.

Native vegetation containing Koala use trees would be partially cleared to accommodate the development, and up to 418.40 ha of critical habitat would be modified. Therefore, the project is likely to adversely impact habitat critical to the survival of the species.

Disrupt the breeding cycle of a population

Large intact areas to the north-east of the project footprint, towards Bungonia State Conservation Area is likely to support an increased number of breeding individuals (high abundance of recent records). Whereas sections of the project footprint towards the south (Tumut) and west (Wagga Wagga), have fewer recent records.

Crucial habitat elements include patches and corridors for gene flow. Over longer-time frames habitat critical to survival includes climate refugia such as drainage lines, riparian zones and patches that are resilient to drying conditions due to favourable hydrological systems. For an individual koala, breeding resources include access to sufficient quality food and shelter trees to meet their daily energetic requirements and reproductive needs, and a place to avoid predators.

Habitat within the indicative disturbance footprint is not thought to be a key breeding area due to the low number of records. Therefore, removal of the habitat is unlikely to disrupt the breeding cycle of the population. The area constitutes a very small proportion of the overall habitat for the population, with active population areas, including the Bungonia State Conservation Area, being the prime candidate sites for breeding activity.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The Koala has been recently observed (in the last 20 years) mostly near Bungonia State Conservation Area (highest number of records), Mundoonen Nature Reserve (near Jarrawa) and Kapooka (near Wagga Wagga). The project in these locations would result in the clearing of known and potential habitat, including koala use trees (used for sheltering, dispersal, foraging and potentially breeding). The species is known to use paddock trees and small remnants to move between patches, however, clearing of native vegetation has the potential to increase the risk of over-browsing (overuse of trees leading to defoliation), disease, predation, vehicle strike and altered movement corridors. The project would remove some, but not all crucial habitat elements for Koala, and is unlikely to substantially fragment movement/dispersal corridors. This project would not affect the entire species' distribution and impacts from the project are distributed throughout a large area. Therefore, while the project would modify, destroy and remove habitat, this is unlikely to cause the species to decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in the species' habitat.

Introduce disease that may cause the species to decline, or

Diseases that currently impact koala populations include Koala retrovirus (KoRV) and Chlamydia (*Chlamydia pecorum*). Wild populations carry disease pathogens. Inadvertent spread of disease also occurred historically following koala translocations.

The prevalence of disease (chlamydiosis) has been found to increase following extreme stress from hot weather, drought, habitat loss and fragmentation (Davies *et al*. 2013). It is unlikely, the removal/modification of habitat as a result of the project, would increase the risk of chlamydiosis.

Phytophthora cinnamomi is known to affect the health of eucalypts. While this fungus does not directly affect the Koala, infestation of a forest may damage habitat important to the species. Management of this and other pathogens will be important in minimising impacts on the habitat for the Koala.

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species, this risk would be mitigated through hygiene protocols throughout the development and management of the project.

Interfere with the recovery of the species

There is a national recovery plan for the Koala (DAWE, 2022e), which identifies the following objectives and strategies to meet conservation objectives:

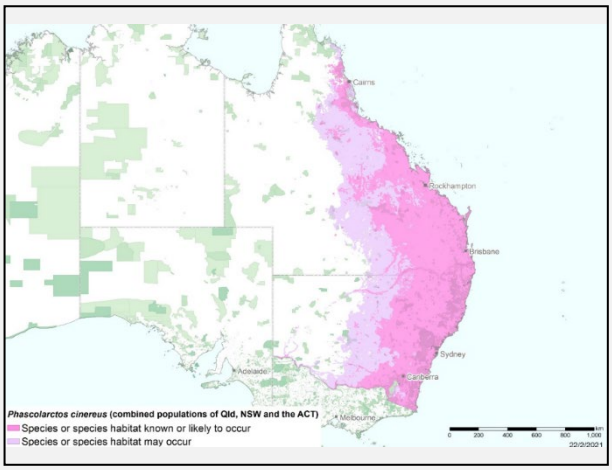
- Objectives:
  - The area of occupancy and estimated size of populations that are declining, suspected to be declining, or predicted to decline are instead stabilised then increased
  - The area of occupancy and estimated size of populations that are suspected and predicted to be stable are maintained or increased
  - Metapopulation processes are maintained or improved
  - Partners, communities and individuals have a greater role and capability in listed Koala monitoring, conservation and management
- Supporting strategies:
  - Build and share knowledge
  - Engage and partner with the community in listed Koala conservation
  - Increase the area of protected habitat for the listed Koala
  - Integrate listed Koala conservation into policy, statutory and land use plans
- On-ground strategies:
  - Strategically restore listed Koala habitat
  - Actively manage listed Koala metapopulations.

The project has the potential for clearing in native forests and to remove important habitat and increase fragmentation. These effects would be greatest at the local level and would not affect the species across its entire range. The project is therefore unlikely to interfere with the recovery strategies detailed above.

Conclusion

In line with the above findings, the project is considered likely to have a significant impact on the Koala under the precautionary principle due to removal of 418.40 ha of potentially suitable habitat where the species has been assumed present. A summary of the NSW assessment bilateral requirements for Koala is presented in Table A18- 30.

Table A18- 30: NSW assessment bilateral requirements for Koala

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, important populations, habitat critical for survival and relevant Commonwealth documents are provided above, with a map showing its modelled distribution provided below.  The indicative distribution map of the known, likely to occur and may occur distributions of the Koala *Phascolarctos cinereus* (combined populations of Qld, NSW and the ACT) (DAWE, 2022d).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Koala surveys were carried out in accordance with the following survey guidelines: • Survey guidelines for Australia's threatened mammals (DSEWPaC, 2011a) • Koala (*Phascolarctos cinereus*) Biodiversity Assessment Method Survey Guide (DPE, 2022d). Opportunistic surveys of suitable habitats were undertaken in addition to targeted surveys. Habitat assessments were undertaken to assess the likelihood of threatened species of animal (those species known or predicted to occur within the locality from the literature and database review) occurring within the project footprint. Fauna habitat assessments were the primary assessment tool in assessing whether threatened species were likely to occur within the project footprint.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The direct impacts of the project on this species includes the removal of approximately 418.40 ha of potential habitat. The area of occupancy of the Koala is estimated at 1,940,000 ha the distribution of the listed population extends from the coastal and inland areas of Queensland, through New South Wales and the Australian Capital Territory (see distribution map above). The project will impact approximately 0.02% of potential Koala habitat on a national scale.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	The proposed avoidance and mitigation measures pertaining to threatened fauna habitat for the project are outlined in Chapter 12 and 14 of the BDAR.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to the Koala is estimated at 418.40 ha of habitat removal. There is the potential for indirect impacts (such as edge effects) to occur to any retained areas of Koala habitat within or adjacent to the project footprint, however, it is expected that these impacts would be largely mitigated and managed through implementation of measures detailed in Chapter 14 of the BDAR. The potential residual impact to this species was considered to be significant as per the SIA (see above).
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Koalas are considered likely to be significant as detailed above. Residual impacts to Koalas would be offset under the NSW BOS. 465 species credits will be required. Offsets will be established/satisfied as detailed below. Details of

NSW Assessment Bilateral requirements	
	offset requirements and obligations for the Koala as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.19 Smoky Mouse (*Pseudomys fumeus*)

The Smoky Mouse is listed as Endangered under the EPBC Act.

Description

The Smoky Mouse is a ground dwelling mammal, with an average length of the head and body of 90 mm, tail of 140 mm and body weight of 52 grams. Its fur is soft and fine, pale to blueish-grey on the back and head, grey to white on the belly, and there are rings of dark hairs around the eyes. It has a characteristic bi-colour tail, being blue-grey dorsally and pale pinkish to white ventrally, which is sparsely furred (OEH, 2021; TSSC, 2020b). However, in Victoria, a variability in size and colour has been noted between western and eastern forms. The western form is known only from the Grampians and is larger and darker than the eastern form, which is found east of Melbourne (TSSC 2020b), while populations in NSW are similar in appearance to the eastern form (TSSC, 2020b).

The Smoky Mouse is endemic to south-eastern Australia, from Victoria, to NSW and the ACT, where it occurs in four IBRA regions: South-east Highlands, South East Corner, Australian Alps and the Victorian Midlands (Menkhorst and Broome, 2006). For recovery planning purposes, five distinct biogeographic regions are used as basic units of management for the Smoky Mouse recovery, including: the Grampians, Otway Range, South-east Highlands and coastal East Gippsland-Eden Hinterland. However, it is unclear whether populations persist in all these regions.

The Smoky Mouse is known to inhabit a range of vegetation communities. These include heath and open forest on the Victorian coast, heath, and *Eucalyptus pauciflora* woodland in the subalpine regions up to 1800 metres, sclerophyll forest dominated by eucalypts such as *E. dives, E. mannifera, E. dalrympleana* or *E. delegatensis,* and fern gullies in the Grampians (OEH, 2021; TSSC, 2020b). It was thought to have a

preferred habitat of ridge-top sclerophyll forest with a diverse understory of heathy shrub. However, recent investigations captured more individuals on damp drainage systems than dry slopes, suggesting more information on the species' habitat requirements are necessary. Except for drainage lines, a characteristic of Smoky mouse habitat includes the presence of a floristically diverse understorey, with members of the plant families *Epacridaceae, Fabaceae* and *Mimosaceae* well represented. These characteristics appear to be related to the diversity of food resources available in these habitats, as well as adequate ground cover and soil conditions conducive to hypogeal fungi growth (TSSC, 2020b). The Smoky Mouse predominantly consumes fruits and seeds from leguminous shrubs in summer and autumn with some invertebrates such as Bogong Moths in the high country, and hypogeal fungi in winter and spring with some flowers, seeds and soil invertebrates (OEH, 2021). Boulder fields are thought to provide a refuge from predators (TSSC, 2020b), with nesting sites found in rocky localities between tree roots and under the skirts of *Xanthorrhoea* spp. in proximity to suitable forage resources (OEH, 2021).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- Approved conservation advice for *Pseudomys fumeus* Smoky Mouse, in effect under the EPBC Act from 01 Sep 2020.
- National Recovery Plan for the Smoky Mouse *Pseudomys fumeus*. In effect under the EPBC Act from 23 Oct 2008.

The following threat abatement plans are relevant to the Smoky Mouse:

- Threat abatement plan for predation by feral cats. In effect under the EPBC Act from 23 Jul 2015.
- Threat abatement plan for competition and land degradation by rabbits. In effect under the EPBC Act from 07 Jan 2017.
- Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomi.* In effect under the EPBC Act from 22 Feb 2019.
- Threat abatement plan for predation by the European red fox. In effect under the EPBC Act from 01 October 2008.

Relevant survey guidelines for this species include:

- Survey guidelines for Australia's threatened mammals. EPBC Act survey guidelines 6.5 (DSEWPaC), 2011a).

Specific Impacts

The Smoky Mouse was not detected during field surveys, however it assumed present as it has a moderate likelihood of occurrence in the Bondo and Snowy Mountains IBRA subregions due to the presence of suitable habitats within the species known distribution and multiple records within 20 km of the project footprint (nine in Bondo and 28 in Snowy Mountains). The project would result in the loss of approximately 132.66 ha of potential habitat in the Bondo and Snowy Mountains IBRA subregion. PCTs present in the project footprint that are associated with this species include PCT 638, 953 and 1196.

The area of occupancy of the Smoky Mouse is estimated at 26,400 ha and the national distribution of this species extends from Victoria to southern New South Wales and the Australian Capital Territory, where it exists within small and fragmented populations. The project would impact 0.5% of Smoky Mouse habitat on a national scale.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population

Suitable foraging habitat for the Smoky Mouse was found within the project footprint in the Bungonia, Bondo and Snowy IBRA subregions. However, the species predominantly occupies subalpine environments, which are not present within the project footprint in Bungonia. No species records occur within the project footprint, and no individuals were found during targeted surveys. The project will not impact any of the five Smoky Mouse biogeographic regions outlined by the National Recovery Plan (Menkhorst and Broom 2006) and would result in a relatively low clearing of suitable foraging habitat (132.66 ha, 0.5% of the national habitat extent) compared to that remaining in the surrounding habitats. Where possible, impacts to heathy midstories (eg, vegetation stepping-stones), rocky habitats, and ground refugia should be minimised under the linear transmission line infrastructure, where possible. Due to the lack of records and individuals found within the project footprint, direct mortality as a result of the project is also considered unlikely. It is therefore considered unlikely that the project would lead to a long-term decrease in the size of a Smoky Mouse population.

Reduce the area of occupancy of the species

The area of occupancy of this species is estimated at 26,400 ha and the species distribution extends from Victoria to southern New South Wales and the Australian Capital Territory. The project footprint is near the northern extent of the species range. Therefore, there is potential for the project to reduce the area of occupancy of this species by 0.5%.

Fragment an existing population into two or more populations

In its endemic distribution, the Smoky Mouse exists within small and fragmented ephemeral populations. A significant population was recently found in 2018-19 north of Cabramurra in Kosciuszko National Park (TSSC, 2020b), although most populations occur in Victoria (Menkhorst and Broome, 2006). However due to the factors outlined above, including the fact that the project footprint is located near the edge of the species range, and the ability of the species to traverse the linear project infrastructure via retained midstories and ground cover, it is considered unlikely that an existing population of the Smoky Mouse would be fragmented into two or more populations.

Adversely affect habitat critical to the survival of a species

The National Recovery Plan for the Smoky Mouse states that the knowledge of habitat requirements is inadequate to describe habitat critical to the survival of this species (Menkhorst and Broome, 2006). However, the Smoky Mouse is known to inhabit a range of vegetation communities with similar characteristics (described above) which were used to determine potentially suitable habitat within the project footprint. The project would not impact any of the five Smoky Mouse biogeographic regions outlined by the Recovery Plan and no individuals were found or have been recorded within the project footprint where targeted surveys were undertaken. In addition, the project would result in a relatively low clearing of suitable foraging habitat compared to that remaining in the surrounding vegetation. It is therefore considered unlikely that the project would adversely affect habitat critical to the survival of the Smoky Mouse.

Disrupt the breeding cycle of a population

Due to the factors described above, such as the avoidance of known Smoky Mouse populations, and the relatively low amount of clearing of suitable foraging habitat (0.5% reduction), it is considered unlikely that the project would disrupt the breeding cycle of a Smoky Mouse population.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The Smoky Mouse was not detected during field surveys, however it assumed present as it has a moderate likelihood of occurrence in the Bondo and Snowy Mountains IBRA subregions due to the presence of suitable habitats within the species known distribution and multiple records within 20 km of the project footprint (nine in Bondo and 28 in Snowy Mountains). The project would result in the loss of approximately 132.66 ha of potential habitat in the Bondo and Snowy Mountains IBRA subregion. PCTs present in the project footprint that are associated with this species include PCT 638, 953 and 1196.

The area of occupancy of the Smoky Mouse is estimated at 26,400 ha and the national distribution of this species extends from Victoria to southern New South Wales and the Australian Capital Territory, where it exists within small and fragmented populations. The project would impact 0.5% of Smoky Mouse habitat on a national scale. Therefore, it is considered unlikely that the project would impact Smoky Mouse habitat to such an extent that the species is likely to decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

A major threat to the Smoky Mouse is predation by introduced carnivores, including feral cats (*Felis catus)* and European red foxes (*Vulpes vulpes)*. Vegetation clearing and increased habitat fragmentation may increase predation of the Smoky Mouse by these species. Development of a pest species monitoring program may be required if there is a substantial occurrence of large intact remnants and threatened species habitat within or adjacent to the disturbance areas.. Once mitigation measures are implemented, it is considered unlikely that the project would result in an invasive species becoming established in the Smoky Mouse habitat as a result of the project.

Introduce disease that may cause the species to decline, or

Dieback of understory heathlands due to the Cinnamon Fungus *Phytophthora cinnamomi* is listed as a major threat to the Smoky Mouse (Menkhorst and Broome, 2006; TSSC, 2020b). Whilst there is a risk that construction machinery and workers may disperse *P. cinnamomi* as well as other soil and plant pathogens, this risk would be mitigated through hygiene protocols throughout the development and management of the project. It is therefore considered unlikely that the project will introduce a disease that may cause the Smoky Mouse to decline.

Interfere with the recovery of the species

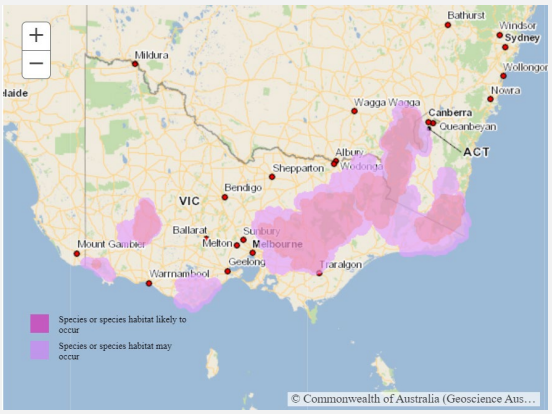
The avoidance and mitigation measures described above would be implemented where practicable to reduce the impact of the project on suitable habitat for the Smoky Mouse. The project does not impact any of the five Smoky Mouse biogeographic regions outlined by the Recovery Plan, and no individuals were found or have been recorded within the project footprint. The project would result in the relatively small clearing of suitable forage habitat compared to that available in the surrounding vegetation. Due to this, the project is considered unlikely to interfere with the recovery of the Smoky Mouse.

Conclusion

In line with the above findings, the project is considered unlikely to have a significant impact on the Smoky Mouse due the relatively small area of habitat to be removed (132.66 ha) that will not impact critical habitat and in which areas of understorey and midstorey vegetation would be retained. In addition, the project footprint occurs near the northern extent of the species range and therefore is unlikely to increase fragmentation.

A summary of the NSW assessment bilateral requirements for Smoky Mouse is presented in Table A18- 31.

Table A18- 31: NSW assessment bilateral requirements for Smoky Mouse

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	Distribution of the Smoky Mouse. The map shows all records from the Atlas of Victorian Wildlife and NSW Wildlife Atlas. A predicted distribution using the BIOCLIM climatic model is also shown (TSSC, 2020b). A description of the species habitat is provided above. 
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened mammals, EPBC Act survey guidelines 6.5 (DSEWPaC, 2011a). These included baited hair tube arrays, spotlighting and baited remote camera placed in pockets of good quality habitat within the Bungonia, Bondo and Snowy Mountains IBRA subregions. Detailed methods can be found in section 4.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The impacts of the project on the species include the removal of approximately 132.66 ha of potential foraging habitat. The area of occupancy of the Smoky Mouse is estimated at 26,400 ha and the national distribution of this species extends from Victoria to southern New South Wales and the Australian Capital Territory (see distribution map above) where it exists within small and fragmented ephemeral populations. The project would impact 0.5% of Smoky Mouse habitat on a national scale. There is limited information available on the population size of the Smoky Mouse and there are no robust estimates available in the literature to approximate the national population. However, some studied populations show signs of decline (Menkhorst and Broome, 2006; TSSC, 2020b). Within the project footprint, no Smoky Mouse individuals have been recorded where targeted surveys have been undertaken. Further, the project footprint does not intersect any of the Smoky Mouse biogeographic regions outlined by the National Recovery Plan (Menkhorst and Broom, 2006).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to the Smoky Mouse:

NSW Assessment Bilateral requirements	
	• Where feasible, reduce the clearing requirements for mid and understorey vegetation in areas of habitat within the indicative disturbance area. • Avoid and mitigate impacts to rocky outcrops, the skirts of *Xanthorrhoea* spp., ground cover and soils in proximity to the habitats described above (Figure 13-8). • Mitigate the increased risk of predation by feral cats and European red foxes exacerbated by the project through development of a pest species monitoring program where substantial large intact remnants and threatened species habitat occur within or adjacent to the disturbance areas..
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	After the proposed activities are undertaken to avoid and mitigate these impacts, there is unlikely to be significant residual adverse impacts on the Smoky Mouse.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Smoky Mouse are considered likely to be not significant as detailed above. As such offsets are not proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. Any significant residual impacts not addressed by the BAM will be addressed in accordance with the EPBC Act Environmental Offset Policy.

2.3.20 Grey-headed Flying-fox (*Pteropus poliocephalus*)

The Grey-headed Flying-fox is listed as Vulnerable under the EPBC Act and BC Act.

Description

The Grey-headed Flying-fox is the largest bat in Australia. Their head and body length ranges between 23-29 cm (OEH, 2020). Males are larger than females, usually weighing between 750 and 1000 g while females are between 650 and 800 g, and experience seasonal fluctuations in body weight (DAWE 2021h). Both sexes have forearms between 155 – 175 mm in length, and the wingspan can be up to one metre. Their body fur is typically medium to dark grey with light tipped hairs, while their head colour ranges between near black to silver (OEH, 2020; DAWE, 2021h). An orange to russet coloured fur collar encircles the neck

which is unique to the species. The wing membranes are black, and the leg fur extends to the ankle (DAWE, 2021h).

The Grey-headed Flying-fox is found in eastern Australia, from Ingham in Queensland through to Adelaide in South Australia, typically within 200 kilometres of the coast. However, they have recently become established in SA, ACT, Victoria and inland NSW. In NSW, they can be found along the coast as well as inland to the tablelands and western slopes in the north. Within its distribution their presence and abundance vary widely both seasonally and temporally. At a regional scale, regular annual cycles of migration are supported by plants with similar flowering and fruiting phenology (DAWE 2021h). However, during times of food shortages such as drought, they may be found in unusual locations (Yabsley *etal*. 2021).

The Grey-headed Flying Fox is known to forage in all habitat types and historically occupied forests and woodlands feeding on native vegetation. Most myrtaceous plants utilised by the Grey-headed Flying Fox flower within a defined season, however productive flowering events are not annually or geographically reliable, and only few locations within the range produce adequate forage continuously. This results in species migration in response to food quantity and location, often over large distances. They roost in large aggregations in the exposed branches of trees, known as camps. Camps are used as resting habitat, social interaction and breeding sites, and maternity and day refuges. They occur in a wide range of vegetation, ranging from continuous forests to 1 ha fragments. Many camps have predictable seasonal patterns of occupation and may be inhabited continuously or rarely, although annual variations can differ widely (DAWE 2021h). Important vegetation communities utilised by the Grey-headed Flying-fox in winter and spring contain *Eucalyptus tereticornis, E. albens, E. crebra, E. fibrosa, E. melliodora, E. paniculata, E. pilularis, E. robusta, E. seeana, E. sideroxylon, E. siderophloia, Banksia integrifolia, Castanospermum australe, Corymbia citriodora citriodora, C. eximia, C. maculata, Grevillea robusta, Melaleuca quinquenervia or Syncarpia glomulifera* (DAWE 2021h).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species are as follows:

- No approved conservation advice exists for *Pteropus poliocephalus* Grey-headed Flying-fox.
- National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus. In effect under the EPBC Act from 23 November 2021.
- Listing advice for the Grey-headed Flying-fox (TSSC 2001): Commonwealth Listing Advice on *Pteropus poliocephalus* Grey-headed Flying-fox.
- No Threat Abatement Plan has been identified as being relevant for this species.

Relevant survey guidelines for this species include:

- Survey Guidelines for Australia's Threatened Bats. EPBC Act survey guidelines 6.1 (Department of the Environment, Water, Heritage, and the Arts (DEWHA), 2010c).

Specific Impacts

During field surveys, no breeding or roosting habitat (camps) were observed and no Nationally Important Flying Fox Camps occur within the project footprint (DECC, 2012). However, the Grey-headed Flying-fox has a medium likelihood of occurrence in Bungonia, Murrumbateman, Crookwell and Inland Slopes IBRA

subregion portion of the project footprint, which contains a variety of suitable forage habitats (comprising of native and non-native vegetation).

A review of known Grey-headed Flying-fox camps was undertaken to determine the proximity of these local populations to the project footprint (Table A18- 32). There are eight known Grey-headed Flying-fox camps within foraging range (less than 20 km) of the project footprint. Where field surveys have been undertaken, no Grey-headed Flying-fox camps have been identified.

Table A18- 32: Grey-headed Flying-fox camps known within the locality, as advised by the BCD

Camp name	Latitude	Longitude	LGA	Distance from project footprint (km)	Nationally Important Camps (DECC 2012)
Wagga Wagga	-35.117527	147.39032	Wagga Wagga	9 km	No
Tarcutta	-35.2792	147.7316	Wagga Wagga	5 km	No
Tumut River Island	-35.3008	148.2302	Snowy Valleys	6 km	No
Yass	-34.8404	148.9094	Yass Valley	6 km	No
Goulburn	-34.74869	149.73413	Goulburn-Mulwaree	22 km	No
Moss Vale	-34.5497	150.3695	Wingecarribee	30 km	No
Mittagong	-34.448	150.4598	Wingecarribee	37 km	No
Moss Vale, Whites Creek	-34.5497	150.3695	Wingecarribee	30 km	No

Based on the above assumptions that potential habitat within project footprint is for foraging purposes only, an area of approximately 226.68 ha (17%) of foraging habitat for the Grey-headed Flying-fox would be directly impacted by the project.

Indirect impacts resulting from the project include increased risk of entanglement and collision. In Mo *et al.* (2020), a broad range of factors were involved in flying-fox mortality or injury, the main ones being entanglements and electrocutions.

Upon review of BioNet records (2022), there have been numerous Grey-headed Flying-fox individuals that have experienced electrocution (resulting in injury or mortality from existing transmission lines), particularly within proximity to the Tumut River Island and Wagga Wagga flying-fox camps (more urbanised areas). However, based on knowledge of species behaviour and body size, it is likely that these electrocutions were associated with low voltage transmission lines which generally support line spacing of around 600 millimetres.

There is a risk of electrocution from short circuit associated with these lines where the species has potential to contact more than one line with their feet or wings. In contrast to this, the HumeLink project would involve high voltage lines spaced more than 6 m apart thus minimising any risk of electrocution.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

There are multiple records of the Grey-headed Flying-fox within the project footprint in the Bungonia, Crookwell, Inland Slopes and Murrumbateman IBRA subregions. No roosting and breeding sites or Nationally Important Flying-fox Camps are known to occur within accessible areas the project footprint, however, for inaccessible areas within the project footprint the occurrence of Grey-headed Flying-fox camps are unknown.

The loss of foraging resources is listed as a key threat to Grey-headed Flying-fox and the project would result in the removal of 226.68 ha of native foraging resources within the region. It is assumed that the reduction in foraging resources within 20 kilometres of known camps, would lead to long-term decrease in the size of an important population. Given that the species is nomadic and has a wide variety of native and non-native foraging resources that it relies on, it is difficult to quantify the scale of impact this loss of vegetation would incur on local populations.

The Bungonia, Crookwell, Inland Slopes and Murrumbateman IBRA subregions, consist of extensive areas that have been historically cleared for grazing and agricultural land practices. Native remnants primarily persist in the landscape as reserves and vegetation corridors, with varying degrees of fragmentation. Grey-headed Flying Fox in these regions are likely to rely on a combination of native flowering myrtaceous species, and non-native vegetation (eg, crops and planted gardens) within the locality.

Based on the known distribution of Grey-headed Flying Fox camps within the region, the increased risk of entanglement and collision from the project and the scale of vegetation loss within the region, it is considered likely that the project would lead to the long-term decrease in the size of an important population of Grey-headed Flying-fox.

Reduce the area of occupancy of an important population

An area of approximately 226.68 ha of potential foraging habitat for the Grey-headed Flying-fox would be impacted by the project. Given that the species is nomadic and has a wide variety of native and non-native foraging resources that it relies on, it is difficult to quantify the scale of impact this loss of vegetation would incur on local important populations. At this stage, little is known about landscape utilisation of flying-foxes in human-modified areas, and how this may differ in natural areas (Yabsley *et al.,* 2021). Further, eight known Grey-headed Flying-fox camps occur within less than 20 kilometres of the project footprint. The eight camps are not recognised as National Important Flying-fox camps on the Departments National Flying-fox monitoring viewer (DECC, 2012). However, it is noted that the national population of the Grey-headed Flying-fox is spatially structured into colonies (Parry-Jones and Wardle, 2004). There are no separate or distinct populations due to the constant genetic exchange and movement between camps throughout the species' entire geographic range. This indicates that there is one single interbreeding population (Webb and Tidemann, 1995).

Upon review of Grey-headed Flying Fox records in the region (20-kilometre buffer of the project footprint), there was over 400 records of injured individuals, and two dead individuals. A large proportion of those injuries were resulting from entanglement or electrocution. Therefore, the project would result in the depletion of habitat critical to the survival of the species and an elevated risk of entanglement, and electrocution in the locality.

Given the factors detailed above, a reduction in occupancy of an important population of the Grey-headed Flying Fox as a result of the project is considered likely.

Fragment an existing important population into two or more populations

An area of approximately 226.68 ha of potential foraging habitat for the Grey-headed Flying-fox would be impacted by the project. Given the species is highly mobile, the project is unlikely to impede aerial movement throughout the landscape. Despite this, a connectivity strategy would be prepared as part of the project, which would mitigate indirect impacts to connectivity resulting from the project.

Adversely affect habitat critical to the survival of a species

Within the project footprint, no native or exotic vegetation used for roosting at the site of a Nationally Important Camp was recorded, however, this can only be confirmed for areas where field surveys have been undertaken. There are eight known Grey-headed Flying-fox camps within foraging range (less than 20 kilometres) of the project footprint. PCTs within the project footprint, such as PCT 266, 268, 277, 278, 280, 1330 and 283 contain important foraging resources for Grey-headed Flying-fox (eg, *Eucalyptus melliodora, Eucalyptus albens and Eucalyptus sideroxylon).* The eight Grey-headed Flying-fox camps near the project footprint are not regarded as nationally important camps, however, the project footprint contains PCTs with native species that are known to be productive foraging resources during the final weeks of gestation, and during the weeks of birth, lactation, and conception (August to May), and therefore, the project footprint supports habitat critical to the survival of the species (DAWE, 2021h). Given that the species is nomadic and has a wide variety of native and non-native foraging resources that it relies on, it is difficult to quantify the scale of impact the loss of foraging resources as a result of the project (226.68 ha) would incur on local populations.

There is evidence that foraging resources (in southern NSW) in remaining habitat are inadequate to provide reliable resources during critical periods in the reproductive cycle of Grey-headed Flying-foxes. The species is subject to recurring food shortages during late gestation, birth and early lactation. These shortages are associated with rapid weight loss in adults, poor reproductive success, and death (Collins, 2000; Eby, 2000; Parry-Jones and Augee, 2001).

Given the proportion of foraging habitat to be removed (226.68 ha), the project is likely to adversely affect habitat critical to the survival of the species.

Disrupt the breeding cycle of an important population

A review of known Grey-headed Flying-fox camps was undertaken to determine the proximity of these local populations to the project footprint. There are eight known Grey-headed Flying-fox camps within foraging range (within 20 kilometres) of the project footprint. Where field surveys have been undertaken, no Grey-headed Flying-fox camps have been identified in the project footprint. Further, the project footprint is likely to contains PCTs with native flora species that are known important foraging resources during the final weeks of gestation, and during the weeks of birth, lactation, and conception (August to May).

Given the uncertainty on the presence, or absence of Grey-headed Flying-fox camps within inaccessible areas of the project footprint, the proximity of known camps to the project footprint, and the loss of important foraging resources used during gestation, the project is considered likely to disrupt the breeding cycle of an important population of the Grey-headed Flying-fox.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

An area of approximately 226.68 ha of potential foraging habitat for the Grey-headed Flying-fox would be impacted by the project. Given the species is highly mobile, the project is unlikely to impede aerial movement throughout the landscape. Despite this, a connectivity strategy would be prepared as part of the project, which will mitigate indirect impacts to connectivity resulting from the project (including collision and entanglement avoidance measures).

Grey-headed Flying-fox requires a continuous temporal sequence of productive foraging habitats and suitable roosting habitat. There are eight known Grey-headed Flying-fox camps within foraging range (within 20 kilometres) of the project footprint. It is assumed that all native vegetation within project footprint, is potential foraging habitat for the species, and therefore, habitat critical to the survival of the species (DAWE, 2021h).

Due to these factors, it is considered likely that the project would modify, destroy, remove, or isolate or decrease the availability or quality of foraging habitat (habitat critical to the species survival) to the extent that the Grey-headed Flying-fox is likely to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat;

There is anecdotal evidence that the Grey-headed Flying-fox is predated upon by a range of animals, but their impact is considered insignificant (DAWE, 2021h). It is considered therefore unlikely that an invasive species that is harmful to the Grey-headed Flying-fox will become established in its habitat as a result of the project.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction machinery and workers may disperse soil and plant pathogens that can affect forage species, this risk would be mitigated through hygiene protocols implemented through the Biodiversity Management Plan to be prepared for the project. It is considered unlikely that the project will introduce disease that may cause the Grey-headed Flying-fox to decline.

Interfere substantially with the recovery of the species.

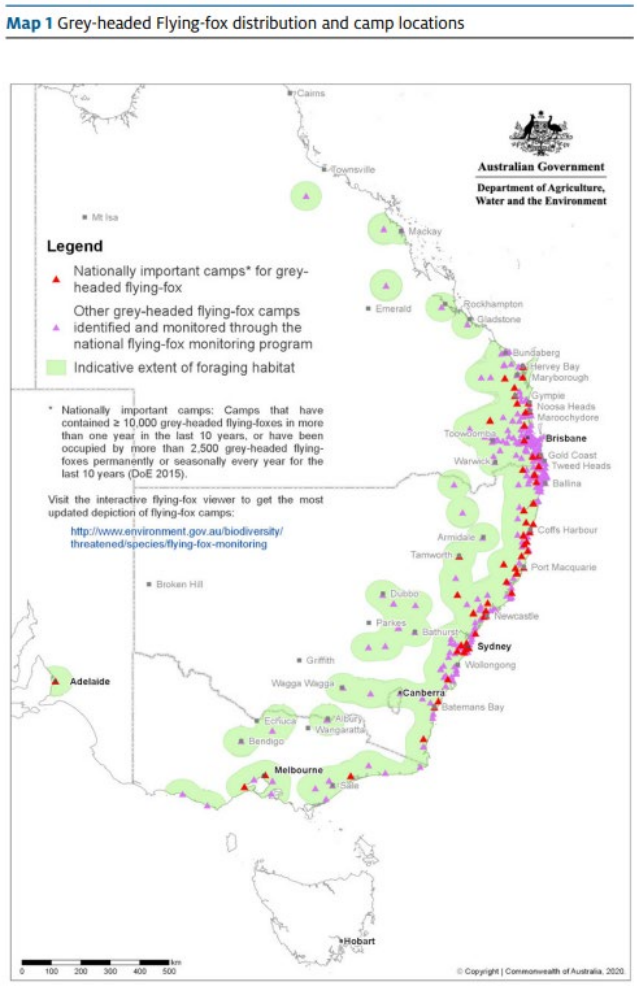
The project would partially interfere with Recovery Action 1 "*Identify, protect, and increase native foraging habitat that is critical to the survival of the Grey-headed Flying-fox*", with the removal of 226.68 ha of foraging habitat (within 20 kilometres of known camps), however, these camps are not recognised as Nationally Important, therefore, the project is considered unlikely to interfere with the recovery of the Grey-headed Flying-fox.

Conclusion

In line with the above findings, the project is considered likely to have a significant impact on the Grey-headed flying fox, based on the known distribution of Grey-headed Flying-fox camps within the region, the increased risk of entanglement and collision from the project and the scale of vegetation loss within the region. It is considered likely that the project will likely lead to the long-term decrease in the size of an important population of the Grey-headed Flying-fox.

A summary of the NSW assessment bilateral requirements for Grey-headed Flying-fox is presented in Table A18- 33.

Table A18- 33: NSW assessment bilateral requirements for Grey-headed Flying-fox

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Grey-headed Flying-fox (DAWE, 2021h) The "*National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus*" (DAWE, 2021h) is the key recovery plan for this species. The Plan outlines habitat critical to the survival, and important foraging resources for the species, important winter and spring vegetation communities are those that contain *Eucalyptus tereticornis, E. albens, E. crebra, E. fibrosa, E. melliodora, E. paniculata, E. pilularis, E. robusta, E. seeana, E. sideroxylon, E. siderophloia, Banksia integrifolia, Castanospermum australe, Corymbia citriodora citriodora, C. eximia, C. maculata, Grevillea robusta, Melaleuca quinquenervia or Syncarpia glomulifera* (Eby and Law 2008; Eby 2016; Eby et al., 2019). Where the existence of these important winter and spring flowering vegetation communities is verified in the field, they are considered habitat critical to the survival of Grey-headed Flying-fox. Back yard fruit trees, orchards or non-native trees that may be used for foraging are not considered to be habitat critical to the survival of the Grey-headed Flying-fox.

NSW Assessment Bilateral requirements	
	PCTs within the project footprint, such as PCT 266, 268, 277, 278, 280, 1330 and 283, contain important foraging resources for Grey-headed Flying-fox (eg, *Eucalyptus melliodora, Eucalyptus albens* and *Eucalyptus sideroxylon*). Habitat critical to the survival of the Grey-headed Flying-fox may also be vegetation communities not containing the above tree species but which: • contain native species that are known to be productive as foraging habitat during the final weeks of gestation, and during the weeks of birth, lactation, and conception (August to May) • contain native species used for foraging and occur within 20 km of a nationally important camp as identified on the Department's interactive flying-fox web viewer, or • Contain native and or exotic species used for roosting at the site of a nationally important Grey-Headed Flying-fox camp as identified on the Department's interactive flying-fox web viewer (DAWE, 2021h). Habitat critical to the survival of the Grey-headed Flying-fox should be the focus for protection and any revegetation initiatives aimed to support the species. Habitat and associated seasonal resources critical to the survival of the Grey-headed Flying-fox have been mapped across large parts of the species range but have yet to be ground-truthed (Eby and Law, 2008). Actions under this recovery plan seek to build on this. Nationally important camps are those that have contained ≥ 10,000 Grey-headed Flying-foxes in more than one year in the last 10 years or have been occupied by more than 2,500 Grey-headed Flying-foxes permanently or seasonally every year for the last 10 years (OEH, 2020). The eight Grey-headed Flying-fox camps that are less than 20 km from the project footprint, are not regarded as nationally significant camps, however, the project footprint contains PCTs with native species that are known to be productive as foraging habitat during the final weeks of gestation, and during the weeks of birth, lactation, and conception (August to May), and therefore, the project footprint supports habitat critical to the survival of the species.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Survey guidelines for Grey-headed Flying-fox are provided in the Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (DEC, 2004), and Survey guidelines for Australia's threatened mammals (DSEWPC, 2011a). The field survey techniques used to detect Grey-headed Flying-fox were habitat-based, and nocturnal survey work (eg, Spotlighting), with a detailed field validation method provided in Section 4.6 (fauna) of the BDAR.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	**Habitat mapping** Fauna habitat assessments were undertaken for all accessible lands within the project footprint to assess habitat suitability for a range of threatened fauna species (those species known or predicted to occur within the locality from previous data collection, literature, and database review). Grey-headed Flying-fox habitat characteristics assessed included, but were not limited to: • the structure and floristics of the canopy, understorey, and groundcover vegetation, including the presence of flowering and fruiting trees providing potential foraging resources for a range of species • physical aspects such as geology, soils, slope, elevation, drainage, and aspect • presence and profiling of waterways (ephemeral or permanent) and water bodies. Opportunistic sightings of animals were recorded. Habitat mapping was undertaken diurnally throughout the duration of the field campaigns.

NSW Assessment Bilateral requirements	
	Spotlighting Spotlighting surveys were completed on foot by pairs of ecologists, targeting arboreal, flying, and large ground-dwelling mammals, as well as nocturnal birds, reptiles, and amphibians. At least one person hour of survey effort was completed per site. Spotlighting survey effort is outlined in the BDAR, in Table 417.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Within the project footprint, direct impacts would occur to 226.68 ha of potential foraging habitat across the project footprint (primarily associated with PCTs 5, 266, 268, 277, 278, 280, 1093, 1107, 1130, 1330, 283 and 731). The area of occupancy for Grey-headed Flying-fox cannot be defined given lack of knowledge on the species. Therefore, the extent of impact on habitat is unknown on a national scale. There are eight known Grey-headed Flying-fox camps less than 20 km of the project footprint. Some PCTs within the project footprint, and indicative disturbance area contain foraging resources considered important for the survival of the species at certain times of the year (eg, *Eucalyptus melliodora, Eucalyptus albens* and *Eucalyptus sideroxylon*). There is evidence that foraging resources (in southern NSW) in remaining habitat is inadequate to provide reliable resources during critical periods in the reproductive cycle of Grey-headed Flying-foxes (May – August). The species is subject to recurring food shortages during late gestation, birth, and early lactation. These shortages are associated with rapid weight loss in adults, poor reproductive success, and death (Collins, 2000; Eby, 2000; Parry-Jones and Augee, 2001). Approximately 226.68 ha of potential foraging habitat, that contains key foraging resources for the Grey-headed Flying-fox will be directly impacted by the project. Indirect impacts resulting from the project include increased risk of entanglement and collision. Further, a review of BioNet records (2023), highlighted numerous Grey-headed Flying-fox individuals that have experienced electrocution (resulting in injury or mortality), particularly within proximity to the Tumut River Island and Wagga Wagga flying-fox camps (more urbanised areas).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Grey-headed Flying-fox: • Pre-construction survey in previously inaccessible areas of the project footprint, to confirm presence/absence of camps • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to foraging resources, where possible. • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk to avifauna-strike • Where feasible, avoid the removal of feed trees; *Eucalyptus melliodora, Eucalyptus albens* and *Eucalyptus sideroxylon* via pre-clearance surveys of indicative disturbance area within 20 kilometres of a known camps, and support PCTs 266, 268, 277, 278, 280, 1330 and 283. These tree species are known to provide productive foraging habitat during conception, the final weeks of gestation, birth, and lactation (August – May). • Development of a connectivity strategy.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Grey-headed Flying-fox is 226.68 ha of habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity, and increased risk of entanglement and/or electrocution) within or adjacent to the project footprint.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Grey-headed Flying-fox are considered likely to be significant as detailed above. Ongoing consultation with BCD will be undertaken as the design is progressed to confirm offset requirements for these species' impacts.

NSW Assessment Bilateral requirements	
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations will be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.3.21 Legless Lizards: Pink-tailed Legless Lizard (*Aprasia parapulchella*) and Striped Legless Lizard (*Delma impar*)

The Pink-tailed Legless Lizard and Striped Legless Lizard are listed as Vulnerable under the EPBC Act and the BC Act.

Description

Pink-tailed Legless Lizard:

The Pink-tailed Legless Lizard is a member of the family *Pygopodidae*. It is a small, legless, and very slender lizard that lives underground, growing to about 25 cm in length, nearly half of which is tail. The snout and the tail are rounded and blunt. The presence of small hind-limb flaps distinguishes it from a juvenile snake. Colouration is predominantly grey-brown to pale grey, with a slightly darker head and nape and a paler underside. The end part of the tail is pinkish to reddish-brown. Each dorsal scale has a short dark mark, forming indistinct, broken, longitudinal stripes that often come together on the tail. There are no external ear openings (TSSC, 2015b).

The Pink-tailed Legless Lizard is only known from the Central and Southern Tablelands, and the Southwestern Slopes. There is a concentration of populations in the Canberra/Queanbeyan Region. Inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass (*Themeda australis*). Sites are typically well-drained, with rocky outcrops or scattered, partially-buried rocks (TSSC, 2015b).

Striped Legless Lizard:

The Striped Legless Lizard lacks forelimbs and has very reduced vestigial hind limbs (TSSC, 2016d). The colour and pattern of this species varies; however, it generally has a pale grey-brown dorsal surface and

cream ventral surface, with a series of dark brown or blackish dorsal lateral and lateral stripes along the length of the body and tail (TSSC, 2016d).

The Striped Legless Lizard is patchily distributed throughout south-eastern New South Wales, the Australian Capital Territory, north-eastern, central, and south-western Victoria, and south-eastern South Australia (TSSC, 2016d). There are outlying records from Gilgandra and Muswellbrook in NSW. This species is a grassland specialist, found only in areas of native grassland and nearby grassy woodland and exotic pasture (TSSC, 2016d).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for these species are as follows:

- Approved conservation advice for the Pink-tailed Legless Lizard (TSSC, 2015b), in effect under the EPBC Act from 1 October 2015, and for the Striped Legless Lizard (TSSC, 2016d), in effect under the EPBC Act from 16 December 2016.
- No specific listing advice is available for either species, listing assessment information may be available in the approved Conservation Advice
- The Minister for the Environment has determined that an official recovery plan for the Pink-tailed Legless Lizard and the Striped Legless Lizard is not required:
  - An approved Conservation Advice is an effective, efficient, and responsive document to guide the implementation of priority management actions, mitigate key threats, and support the recovery of these EPBC Act listed Vulnerable species.
  - The Pink-tailed Legless Lizard occurs across New South Wales, the ACT and Victoria. The threats facing the species, and the recovery actions needed, are largely being addressed and coordinated under existing state and territory plans and programs.
  - The threats facing the Striped Legless Lizard, and the recovery actions needed, are largely being addressed via existing mechanisms. The species' primary habitat is encompassed by four nationally threatened ecological communities. TECs with plans in place, each of which identify actions that benefit recovery of the Striped Legless Lizard.
- The Pink-tailed Legless Lizard and Striped Legless Lizard are referred to in the *Threat abatement plan for competition and land degradation by rabbits*, in effect under the EPBC Act from 7 January 2017
- In addition, the *Threat abatement plan for predation by feral cats*, in effect under the EPBC Act from 23 July 2015, and the *Threat abatement plan for predation by the European red fox*, in effect under the EPBC Act from 1 October 2008 are both relevant to the Striped Legless Lizard.
- Relevant survey guidelines for the Pink-tailed Legless Lizard and the Striped Legless Lizard include:
  - Survey guidelines for Australia's threatened reptiles, EPBC Act survey guidelines 6.6 (DSEWPaC, 2011b).
- Additional guidelines relevant to the Striped Legless Lizard include:
  - Referral guidelines for the Striped Legless Lizard, *Delma impar* (DSEWPaC, 2011c).

Specific Impacts

The Pink-tailed Legless Lizard was recorded in the project footprint during field surveys in the Murrumbateman (five individuals) and Snowy Mountains (one individual) IBRA subregions. It is also assumed present in the Bungonia and Crookwell IBRA subregions as it has a high likelihood of occurrence

due to the presence of suitable habitat and records within 5 kilometres of the project footprint (one in Bungonia and two in Crookwell).

The Striped Legless Lizard was not detected during field surveys, however it is assumed present due to the species high likelihood of occurrence in the Inland Slopes and Murrumbateman IBRA subregions. These areas contain suitable grassland and rocky habitats to support the species, and there are multiple records within 5 kilometres of the project footprint (three in Inland Slopes and 13 in Murrumbateman).

Vegetation clearing for the installation of transmission lines and associated infrastructure may reduce the availability of grassland habitat containing foraging resources potentially used by these species. Further, the project may disturb surface rock, and boulder fields potentially used as foraging and shelter sites by these species. Potential direct impacts include direct removal of grassland habitats, and potential injury or mortality during construction.

The total area of occupancy of the Striped Legless Lizard and Pink-tailed Legless Lizard is unknown (DCCEEW, 2022al). Potential Pink-tailed Legless Lizard habitat is associated with PCTs 266, 277, 278, 280, 283, 290, 294, 319, 322, 351, 731, 1191 and 1330, within the Bungonia, Crookwell, Inland Slopes and Murrumbateman IBRA subregions portion of the project footprint. Striped Legless Lizard habitat is associated with PCTs 277, 1330 and Non-native, within the Bungonia, Crookwell, Inland Slopes and Murrumbateman IBRA subregions.

The project footprint would directly impact on approximately 40.10 ha of known habitat (including 3.00 ha of prescribed impacts on non-native habitats) and 17.30 ha of potential habitat (57.40 ha in total) for the Pink-tailed Legless Lizard, and 124.90 ha of potential habitat for the Striped Legless Lizard. These areas of known and potential habitat are likely to be directly impacted by the project.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

There are no adopted or made Recovery Plans for Striped Legless Lizard and Pink-tailed Legless Lizard.

The Pink-tailed Legless Lizard was recorded in the project footprint during field surveys (six individual records). No important populations have been identified for the Pink-tailed Legless Lizard in in the approved Conservation Advice (TSSC, 2015b). Given the scattered distribution of the species' records, it is likely that any population could be regarded as important since they have limited dispersibility (restricted home range) and would be required to maintain genetic diversity on a local scale.

The Striped Legless Lizard was not recorded during the field surveys for the project and there are no previous records within the project footprint, and only a few records in the broader locality (within 5 kilometers of the project footprint). Like Pink-tailed Legless Lizard, all populations of the Striped Legless Lizard are likely to be regarded as important for the species recovery (TSSC, 2016d). The basis for this is the major loss and degradation of its grassland habitat, the ongoing pressures in remaining habitat and the highly fragmented nature of known habitat and populations (TSSC, 2016d).

The approved Conservation Advice for Striped Legless Lizard (TSSC, 2016d), lists 18 areas that contain known important populations, including the areas of Gilmore, Batlow and Tumut, and Yass and Young. The project is likely to traverse areas that contain important Striped Legless Lizard populations.

Both lizard species generally occupy areas dominated by native grasses, with the presence of surface rock or boulders being a key habitat feature. Potential foraging and shelter habitat is present in the project footprint in the form of rocky habitat in associated grassland PCTs. Approximately 40.10 ha of known habitat (including 3.00 of prescribed impacts) and 17.30 ha of potential (57.40 ha in total) for Pink-tailed Legless Lizard, and 124.90 ha of potential habitat for Striped Legless Lizard would be impacted as a result of the project.

The project may directly impact individuals and their habitats through the removal grassland habitats, and surface rock, particularly in proposed transmission line structures and access track locations. Therefore, the project is likely to lead to a long-term decrease in the size of an important legless lizard populations within the project footprint.

Reduce the area of occupancy of an important population

The national area of occupancy for the Pink-tailed Legless Lizard is unknown (TSSC, 2015b). The project footprint intersects the species likely distribution, both at the edges and entirely within the distribution. The Pink-tailed Legless Lizard was recorded in the project footprint during the field surveys, with additional areas within the footprint considered to be suitable habitat. Any population of the Pink-tailed Legless Lizard would be considered part of an important population. The clearing associated with the project may impact approximately 57.40 ha of potential habitat for the Pink-tailed Legless Lizard, which is considered to be a significant amount given that there is no data on the area of occurrence for this species, and populations are typically disjunct and small.

The national area of occupancy for the Striped Legless Lizard is unknown (TSSC, 2016d). The project footprint intersects the species likely distribution, both at the edges and entirely within the distribution. While the species was not recorded in the project footprint during surveys, these areas of the project footprint that intersect the important population areas are assumed, known or high likelihood of occurrence. Any population of the Striped Legless Lizard within the alignment would be considered part of an important population. The clearing associated with the project may impact approximately 124.90 ha of potential habitat for the Striped Legless Lizard in the form of rocky habitat in associated PCTs.

The project is likely to reduce the area of occupancy of important legless lizard populations.

Fragment an existing important population into two or more populations

Due to significant clearing within their natural distribution, habitat fragmentation is considered to be a key threat for both the Pink-tailed Legless Lizard and Striped Legless Lizard. Any population of these species present in the project footprint would be considered part of an important population.

Striped Legless Lizard are known to be poor dispersers, with evidence suggesting that they are genetically differentiated at distances less than 400 m (TSSC, 2016d). Movement and dispersal behaviour in the Pink-tailed Legless Lizard is unknown, but likely to be restricted based on the size and known ecology of the species. The project footprint intersects the species potential and known distribution. The project may reduce habitat connectivity through the removal grassland habitats, and surface rock, particularly in proposed transmission line structure and access track locations which may effectively isolate individuals

without appropriate consideration. Therefore, the project is likely to fragment an existing important population into two or more populations of these two lizard species. A connectivity strategy and BMP would be developed to mitigate connectivity impacts associated with the project.

Adversely affect habitat critical to the survival of a species

Habitat critical to the survival of the Striped Legless Lizard has been defined in the approved Conservation Advice (TSSC, 2016d):

- Breeding habitat with complex grass structures, and surface rocks or invertebrate burrows for oviposition.
- Foraging habitat diverse floristics, little to no disturbance and adequate connectivity.
- Areas of refuge from disturbance events with surface rocks, arthropod burrows, or suitable cracks in the soil in close proximity to known populations subject to disturbance.
- Areas with long term protection from development, including sites currently covenanted for conservation management, or sites that contain an Endangered Ecological Community protected under the EPBC Act.

No critical habitat has been identified for Pink-tailed Legless Lizard; however, the habitat requirements for both species are likely to be similar to some extent.

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the Pink-tailed Legless Lizard or Striped Legless Lizard.

Given that both species have low dispersibility and occupy grassland and surface rock habitats for all stages of their lifecycle, it is likely the project would affect habitat critical to the survival of these species.

Disrupt the breeding cycle of an important population

Pink-tailed Legless Lizards lay eggs within ants' nests. Striped Legless Lizards lay eggs within soil cavities or under surface rocks. Both species rely on protection provided by rocks, cracks or arthropod burrows to nest and produce egg clutches. The project may result in the removal of some surface rocks, and ground disturbance in the indicative disturbance area. As such, it is considered likely to disrupt the breeding cycle of these species in the long-term, without appropriate consideration.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project may directly impact individuals and their habitats through the removal grassland habitats, and surface rock, and there may be localised impacts to habitat connectivity. Therefore, the project is likely to remove the availability of habitat to the extent that either, or both species are likely to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for these species.

Introduce disease that may cause the species to decline, or

Whilst there is a risk that construction plant, machinery and workers may disperse soil pathogens that can affect foraging habitat of both the Pink-tailed Legless Lizards and the Striped Legless Lizard, this risk would be mitigated through hygiene protocols throughout the development and management of the project.

Interfere substantially with the recovery of the species

There is no current national Recovery Plan for the Pink-tailed Legless Lizard, or the Striped Legless Lizard.

Conservation objectives are outlined in the previous recovery plan for the Pink-tailed Legless Lizard (Osborne and Jones 1995):

- Ensure that the species persists throughout its known range, including within each geographic isolate; and
- Prevent a decrease in population numbers at representative sites by active management of habitat.

In addition, the following objectives have been identified in the ACT Action Plan (ACT Government, 2017):

- Conserve all populations in defined landscape corridors that comprise important linking habitat and all medium to large habitat areas outside these corridors.
- Protect all other sites from unintended impacts (unintended impacts are those not already considered through an environmental assessment or other statutory process).
- Manage the species and its habitat to maintain the potential for evolutionary development in the wild.
- Enhance the long-term viability of populations through management of buffer zones that surround occupied habitat and through rehabilitation of habitat in corridor areas that will increase connectivity between populations.

Conservation objectives are outlined in the previous recovery plan for the Striped Legless Lizard (Smith and Robertson 1999):

- Establish and maintain national forums for the discussion and organization of the conservation of the Striped Legless Lizard across its natural distribution.
- Determine the distribution of potential Striped Legless Lizard habitat.
- Determine the current distribution and abundance of Striped Legless Lizards in Victoria, NSW, the ACT and SA.
- Establish a series of reserves and other managed areas such that viable populations are maintained across the known distribution of the species.
- Determine the habitat use and ecological requirements of Striped Legless Lizards.
- Identify the nature and extent of the threatening processes affecting Striped Legless Lizards.
- Undertake a program of research and monitoring to provide a basis for adaptive management of Striped Legless Lizards.
- Increase community awareness and involve the community in aspects of the recovery program.
- Assess the need for salvage and translocation, determine their feasibilities, develop protocols and undertake a trial translocation if appropriate.
- Ensure that captive population(s) are used to support education and research elements of the Recovery Plan.

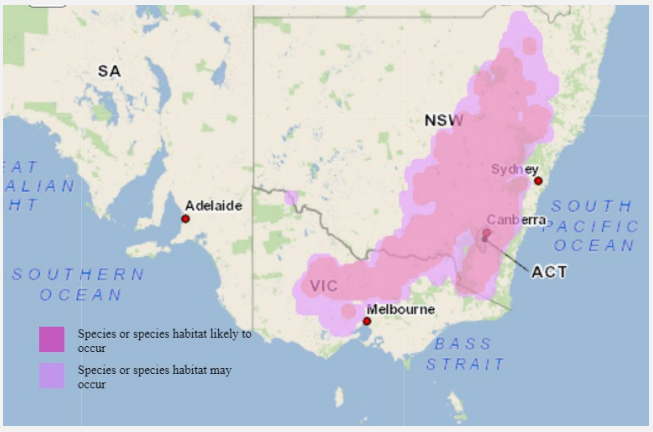
The project may impede or interfere with any of targeted recovery actions for these species through the potential reduction in habitat and population numbers.

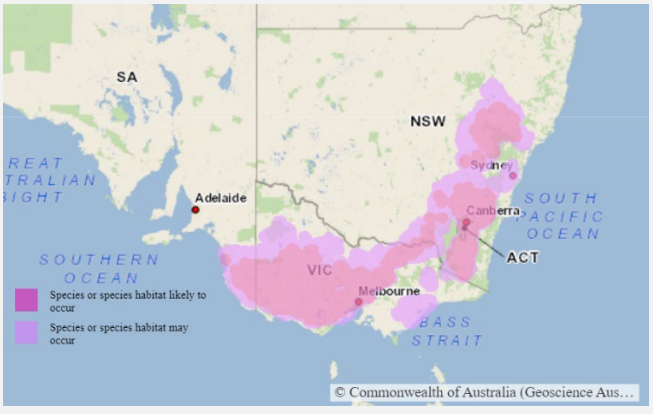
Conclusion

In line with the above findings, the project is considered likely to have a significant impact on the Pink-tailed Legless Lizard and Striped Legless Lizard, based on the known distribution of records and location of known important populations in proximity to the project footprint, the risk of reduced habitat connectivity, and the potential to directly impact individuals and their habitats through the removal of grassland habitats, and surface rock from the indicative disturbance area. It is considered likely that the project would lead to the long-term decrease in the size of an important population of Pink-tailed Legless Lizard and Striped Legless Lizard.

A summary of the NSW assessment bilateral requirements for Legless Lizards is presented in Table A18- 34.

Table A18- 34: NSW assessment bilateral requirements for Legless Lizards

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	**Pink-tailed Legless Lizard:** There is no listing advice or recovery plan identified for this species. Listing assessment and recovery actions are discussed in the approved conservation advice for this species (TSSC, 2015b). References to relevant guidelines and recovery plans are provided above. The conservation advice states that threats to the species include habitat loss and fragmentation, habitat degradation, removal of rocks, inappropriate fire regimes and predation. The Pink-tailed Legless Lizard is found in sloping, open woodland areas with predominantly native grassy ground layers and rocky outcrops or scattered partly buried rocks. These rocky habitats tend to be well-drained mid-slope or ridge-top sites with loosely embedded rocks on soil substrate with ant galleries present. Individuals are most found sheltering under these rocks, and rocks and spend a considerable amount of time in burrows below these rocks constructed, and sometimes still by inhabited by, small black ants or termites. Ant burrows are considered important foraging and shelter sites for this species. The Pink-tailed Legless Lizard is only known from the Central and Southern Tablelands, and the Southwestern Slopes. There is a concentration of populations in the Canberra/Queanbeyan Region. A map of the Pink-tailed Legless Lizard's indicative distribution is provided below:  **Striped Legless Lizard:** The Striped Legless Lizard is a grassland specialist, found only in areas of native grassland and nearby grassy woodland and exotic pasture. (TSSC, 2016d). Striped Legless Lizards are often recorded in grasslands with high structural complexity

NSW Assessment Bilateral requirements	
	(TSSC, 2016d). The lizard's primary habitat is encompassed by four nationally TECs (TSSC, 2016d): • Natural Temperate Grassland of the Victorian Volcanic Plain. • Grassy Eucalypt Woodland of the Victorian Volcanic Plain. • Natural Temperate Grassland of the South-eastern Highlands, and • White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. All populations of the Striped Legless Lizard are likely to be important for the species recovery (TSSC, 2016d). The basis for this is the major loss and degradation of its grassland habitat, the ongoing pressures in remaining habitat and the highly fragmented nature of known habitat and populations (TSSC, 2016d). Genetic analysis shows that across the Striped Legless Lizard's geographical range the species forms four distinct genetic lineages: the South Australia & Victorian Wimmera; south-western Victoria (including Melbourne); eastern Victoria and a lineage covering the ACT and Monaro Plains in NSW (TSSC, 2016d). Genetic differentiation between populations suggests this species do not disperse long distances (TSSC, 2016d). Habitat critical to the survival of the Striped Legless Lizard is likely to include sites that possess more than one of the following characteristics (TSSC, 2016d): • Provides breeding habitat - as indicated by the presence of two or more adult individuals or juveniles, complex grass structures, and surface rocks or invertebrate burrows for oviposition. • Provides foraging habitat - as indicated by diverse floristics, little to no disturbance and is connected to other nearby grasslands or grassy woodlands. • Provides refuge from disturbance events - as indicated by the presence of surface rocks, arthropod burrows or suitable cracks in the soil where lizards can escape trampling by livestock or fire and is in close proximity to a known population which is subject to disturbance. • Provides for long term protection from development – including sites currently covenanted for conservation management, or sites that contain an Endangered Ecological Community protected under the EPBC Act. • Has connectivity value and contributes to the evolutionary potential of the species in the wild across its natural geographical range. A map of the Striped Legless Lizard's indicative distribution is provided below: 
Details of the scope, timing and methodology for studies or surveys used	**Pink-tailed Legless Lizard and Striped Legless Lizard:**

NSW Assessment Bilateral requirements	
and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	Threatened reptile surveys completed in suitable rocky habitat within the project footprint were carried out in accordance with the Survey guidelines for Australia's threatened reptiles Ver.6.6 (DSEWPaC, 2011b). Opportunistic surveys of suitable habitats were undertaken in addition to targeted surveys. Habitat assessments were undertaken to assess the likelihood of threatened species of animal (those species known or predicted to occur within the locality from the literature and database review) occurring within the project footprint. Fauna habitat assessments were the primary assessment tool in assessing whether threatened species were likely to occur within the project footprint. Reptile surveys, in the form of rock rolling, were undertaken within the project footprint by Eco Logical Australia and Niche as part of the BDAR. Detailed methods and timing of surveys can be found in section 3.6 of the BDAR.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	**Pink-tailed Legless Lizard:** The species is widely but patchily distributed across New South Wales, Victoria and the Australian Capital Territory. In New South Wales it known only from isolated sites in the Central and Southern Tablelands and South-western slopes. The current known generalised distribution of this species is shown in the map above. The direct impact of the project on this species includes removal of approximately 57.40 ha of potential habitat. **Striped Legless Lizard:** The species is known to be patchily distributed throughout south-eastern New South Wales, the Australian Capital Territory, north-eastern, central and south-western Victoria, and south-eastern South Australia. The current known generalised distribution of this species is shown in the map above. The direct impact of the project on this species includes removal of approximately 124.90 ha of potential habitat. For both lizards, creation of new access tracks and transmission line structures are the actions likely to cause the most impact on the species. The project would minimise new tracks as far as possible and would retain surface rocks which are significant habitat for these lizards. As such, habitat allowing for species movement, breeding and foraging would be maintained across the project footprint, minimising effect on the national species extents.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	**Pink-tailed Legless Lizard and Striped Legless Lizard:** The proposed avoidance and mitigation measures are outlined in Chapter 12 and 14 of the BDAR. Detailed avoidance description for impacts relating to biodiversity values (including threatened species) are outlined in Chapter 12. Mitigation measures to be implemented are outlined in Chapter 14. No specific measures for these species are identified other than retention of rocky areas.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	**Pink-tailed Legless Lizard:** As detailed in the SIA above, it is considered that the removal of known and potential habitat for this species is likely to have a significant residual impact on the species. **Striped Legless Lizard:**

NSW Assessment Bilateral requirements	
	As detailed in the SIA above, it is considered that the removal of known and potential habitat for this species is likely to have a significant residual impact on the species.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	**Pink-tailed Legless Lizard:** Details of offset requirements and obligations for this species as a result of residual impacts due the project are addressed in Chapter 15 of the BDAR. **Striped Legless Lizard:** Details of offset requirements and obligations for these species as a result of residual impacts due the project are addressed in Chapter 15 of the BDAR.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	**Pink-tailed Legless Lizard and Striped Legless Lizard:** Chapter 16 of the BDAR outlined the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • the purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register • establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • payment into the Biodiversity Conservation Fund.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.

2.4 Aquatic fauna

2.4.1 Flatheaded Galaxias (*Galaxias rostratus*)

Flatheaded Galaxias is listed as Critically Endangered under the EPBC Act and the FM Act.

Description

The Flatheaded Galaxias is a long, slender species of galaxias growing up to 12 centimetres in length. The species has a distinctly flattened head, and very small pectoral and pelvic fins with a large silver eye (Gomon & Bray, 2022).

In terms of distribution, the Flatheaded Galaxias is restricted to the southern Murray-Darling Basin (Lintermans, 2007). Although the species once occurred in the middle reaches of the Lachlan, Murrumbidgee and Murray River catchments in New South Wales (TSSC, 2016e), the last record in the Murrumbidgee River was in 1971 and the species may be locally extinct from Murrumbidgee and Lachlan rivers (Fisheries Scientific Committee 2008). Indicative distribution mapping for the species (DPI 2022a) includes Tarcutta Creek, the Tumut River, Umbango Creek, Kyeamba Creek and O'Briens Creek in the Murrumbidgee catchment within the project footprint.

In terms of habitat, the species occurs in still and gently flowing small streams, lakes, lagoons, billabongs and backwaters with coarse sand or muddy substrate and aquatic vegetation (NSW DPI, 2014).

Key threats to the species are considered to be river regulation, habitat degradation including agriculture and the removal of aquatic and riparian vegetation, water pollution and competition with and predation by alien fish species (TSSC, 2016e). All of these key threats are in operation within the project footprint at significant levels and as such potential habitats for the species would be marginal.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for Flathead Galaxias (TSSC, 2016e). In effect under the EPBC Act from 05 May 2016.
- A Recovery Plan is not required, and no Threat Abatement Plan has been identified as being relevant for this species.

Relevant Commonwealth survey guidelines for this species include:

- The Survey guidelines for Australia's threatened fish (DSEWPaC, 2011d).

Specific Impacts

The construction process for the transmission line structures avoids direct impacts to streams and none of the waterways that have been mapped as within the species indicative distribution would be crossed by any waterway crossings for access tracks as indicated by the indicative access track mapping. As such, this assessment of significance focusses on the potential for disturbance and residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during construction generally. Any indirect impacts that may occur are anticipated be localised and temporary in nature eg disturbance to

instream habitats during the construction of waterway crossings and access tracks or trimming of riparian trees to facilitate transmission line installation.

Significant impact criteria

An action is likely to have a significant impact on a Critically Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The project is considered unlikely to lead to a long-term decrease in the species or a population of the species. This is in consideration that there would be no direct impacts to streams within the mapped indicative distribution of the species (DPI, 2022a) and any indirect impacts that may occur would be localised and temporary in nature. A number of avoidance and mitigation measures have already been incorporated into the project. Further detailed recommendations as to specific mitigation measures to prevent indirect impacts to potential habitats for the species have been included in Chapter 14.

Reduce the area of occupancy of the species;

The extent of occurrence for the species is calculated to be 23,065 square kilometers and the area of occupancy is calculated to be 84 square kilometers (TSSC, 2016e), however, the current distribution of the species outside of the Murray-Darling Basin in NSW is poorly understood.

The project would not directly impact streams within the mapped indicative distribution of the species (DPI, 2022a) and although the project has the potential to result in indirect impacts to aquatic habitats generally, these would be localised and temporary. It is considered unlikely that the scale of these indirect impacts would be significant given the history of landscape modification and existing deleterious processes operating in the streams generally within the project footprint, or that these potential indirect impacts would act to render any potential habitats no longer suitable. For these reasons the project is unlikely to reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

The project would not directly impact mapped indicative distributions (DPI, 2022a) for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of any potential indirect impacts would be so significant that they would render any potential habitats no longer suitable. No indicative access track crossings are located within waterways within the indicative distribution of the species and therefore the project would not result in any barriers to fish passage to the species. As such, the project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species or identified in the Conservation Advice for the species.

Streams mapped as within the indicative distribution (DPI, 2022a) for the species within the project footprint are considered highly unlikely to constitute critical habitat for the species given the lack of recent records within the Murrumbidgee catchment. Furthermore, the significant existing levels of key threats to the species within the project footprint that have led to the generally poor condition of aquatic habitats.

Disrupt the breeding cycle of a population

The breeding and spawning behaviour of this species is poorly understood beyond that the species spawns in August and September, when water temperatures rise above 10.5°C (Department of Primary Industries 2014) and that the species may move upstream in November and December (Lintermans, 2007).

The project would not result in any impacts to fish passage or water temperatures. Any indirect impacts to potential habitats would be anticipated to be localised and temporary. As such it is unlikely that the project would disrupt the breeding cycle of a population of the species.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

It is unclear whether the species is still extant in the Murrumbidgee catchment as it has been suggested the species may be locally extinct from the Murrumbidgee River (Department of Primary Industries 2014). Overall, aquatic habitats within the project footprint generally are in poor condition. The key threats to the species are in operation at significant levels at each of the waterways identified as part of the indicative distribution (DPI, 2022a) of the species.

Given the lack of records and the limited potential for habitat to be indirectly impacted and context of significant existing landscape modification, the project is not likely to contribute to decline of the species.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species.

Introduce disease that may cause the species to decline, or

There is a low potential for any instream plant or machinery used in crossing construction to transport the Epizootic Haematopoietic Necrosis Virus (EHNV), which is known to occur within the Murrumbidgee catchment and is associated with the invasive Redfin Perch *Perca fluviatilis*, which is also known to occur. It has not been established whether the Flathead Galaxias is susceptible to EHNV, although a number of galaxiid species are (TSSC, 2016e).

It has been recommended that this risk be managed through the use of wash down procedures (Chapter 14).

Interfere with the recovery of the species

A Recovery Plan has not been prepared for the species, with the species profile (DCCEEW, 2022am) stating that "many of the threats to the flathead galaxias are threats to other EPBC Act-listed threatened fish species that occur within the Murray-Darling Basin. Actions and mechanisms that are being implemented through a variety of other existing programs (including in other species recovery plans, water management plans, actions being undertaken by relevant catchment management authorities) are likely to be of benefit to this species". The project would be unlikely to interfere with any of these actions or plans.

Conclusion

In line with the above findings, the project is unlikely to have a significant impact on the Flatheaded Galaxias. A summary of the NSW assessment bilateral requirements for Flatheaded Galaxias is presented in Table A18- 35.

Table A18- 35: NSW assessment bilateral requirements for Flatheaded Galaxias

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of the distribution and habitats for this species, and relevant conservation documents are provided in Section 10.2, summarised in the section above. A map of the species indicative distribution is provided below: Overall, the species is considered unlikely to occur within the project footprint. This is given the known current distribution of the species, limited suitable habitats present and generally degraded stream conditions within the project footprint. As a precautionary approach an Assessment of Significance under the EPBC Act has been completed given indicative distribution mapping (DPI, 2022a) occurs within the project footprint. Notwithstanding differences between this indicative distribution mapping and the inferred actual distribution, observed habitats and conditions, and the range of the species as detailed in conservation documents (Section 10.2).
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	No targeted survey has been completed for the species as the Flatheaded Galaxias is considered to be overall unlikely to occur within the project footprint and the potential for impacts to the species is considered low. The assessment is informed by a detailed desktop assessment augmented by opportunistic field observations and a review of the available literature relevant to the species. This assessment has been completed on a precautionary basis given the indicative distribution mapping by DPI (2022a) includes some streams within the project footprint.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Overall, the species is considered unlikely to occur within the project footprint. The construction process for the transmission line structures avoids direct impacts to major waterways and none of the waterways that have been mapped as within the species indicative distribution (DPI, 2022a) would be crossed by any indicative access track waterway crossings. As such, this assessment of significance focusses on the potential for residual indirect impacts to aquatic habitats generally (as the species cannot be ruled out) following the implementation of avoidance and mitigation measures (ie the trimming of native riparian vegetation, erosion and sedimentation risk) during construction.

NSW Assessment Bilateral requirements	
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	The proposed avoidance and mitigation measures are outlined in Chapter 12 and 14 including procedures and measures specific to the protection of aquatic environments. Avoidance measures most relevant to aquatic species include: • Avoiding wetlands protected by international agreements (Tier 1 constraint) • Avoiding where possible, and minimising impacts, in wetlands not listed as Tier 1 constraints, as well as ecological conservation areas, and water crossings greater than 800 metres • Paralleling existing transmission lines to avoid new areas of impact and utilise existing impacted areas • Targeting areas of existing disturbance, such as roads, tracks and property boundaries to reduce environmental and property impacts • Minimising direct impacts on waterways within the project footprint and higher risk erosion areas within the project footprint • New waterway crossings would be established in lower Strahler order waterways where possible. • No permanent transmission line structure infrastructure is anticipated to be located within waterbodies. The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings should be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), should be avoided or minimised. • The crossing design and construction footprint should minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings should be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings should be located in straight stream sections with well-defined channel geometries and shallow stream gradients. • Micro-siting should avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (i.e. snags, coarse woody debris, instream macrophytes, boulders). • Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing. • Crossing structures should be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish).

NSW Assessment Bilateral requirements	
	The following procedures and considerations will be incorporated into construction methodologies and operational procedures for waterway crossings, as practicable and where appropriate: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the construction footprint. This may include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream works sites should be temporarily relocated during construction and then returned to the watercourse, at locations where scour risk can be avoided. • Waterway crossing work should be constructed during no or low flow conditions and under calm weather conditions. Work should also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on any bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account the potentially flood prone nature of the land will be employed to protect against any impacts to water quality or indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoiding riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only natural material will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Any chemicals will be stored as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made available, and a spill response plan developed. • Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures will be implemented when refuelling. • Regular monitoring/inspections of waterway crossing and access track conditions will be undertaken during operation. • Any sections of stream or waterway banks that are impacted or modified by the project will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments. • Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to

NSW Assessment Bilateral requirements	
	construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. • Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	No significant residual adverse impacts to the Flatheaded Galaxias are considered likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	The species is not listed under the BC Act. As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species or Key Fish Habitat under the FM Act are proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	Not applicable, species is not listed under the BC Act.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Not applicable, species is not listed under the BC Act.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species are proposed.

2.4.2 Southern Pygmy Perch (*Nannoperca australis*)

Southern Pygmy Perch is listed as Vulnerable under the EPBC Act and Endangered under the FM Act.

Description

The Southern Pygmy Perch is a small-bodied freshwater fish endemic to south-eastern Australia, with a deeply notched long-based dorsal fin and squarish to slightly rounded tail, with brilliant red fins in breeding males (Bray & Thompson, 2022).

In terms of distribution, the Southern Pygmy Perch was once widely distributed throughout the Lachlan, Murrumbidgee and Murray River system. Lintermans (2007) notes that the Southern Pygmy Perch has now disappeared from most locations in NSW, with remnant populations of the species are now restricted to sections of three waterways in New South Wales, which include a tributary of the Lachlan River (Blakney Creek near Yass) and two tributaries of the Murray River, aside from five additional conservation stocking sites (DPI, 2013, TSSC, 2021c). Importantly, all of these remnant populations are located outside the project footprint and sub-catchments intersected by the project. Information on the stocking locations for this species does not appear to be published. This notwithstanding, 14 waterways within the project footprint have been identified as being within the indicative distribution of the species (DPI 2022a).

The Southern Pygmy Perch prefers slow flowing or still waters in small streams, billabongs, vegetated lakes and irrigation channels with dense aquatic vegetation and habitat cover (Lintermans 2007). These habitats are generally absent within the project footprint, and where present in some form, they are typically limited and have been subject to impact or deleterious processes such as grazing and riparian clearing.

Key threats to the species are habitat degradation, including the loss of aquatic and riparian vegetation. Given the prevalence of these sources of degradation, potential habitats for the species within the project footprint would likely be considered marginal.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for the Southern Pygmy Perch (TSSC, 2021c). In effect under the EPBC Act from 13 April 2021.
- A Recovery Plan is not required, and no Threat Abatement Plan has been identified as being relevant for this species.

Relevant Commonwealth survey guidelines for this species include:

- The Survey guidelines for Australia's threatened fish, (DSEWPaC, 2011d).

Is this part of an important population?

There is no adopted or made Recovery Plan for this species and the Conservation Advice does not identify any important populations (TSSC, 2021c).

No existing populations of the Southern Pygmy Perch are known to occur within the project footprint and these known remaining populations would not be impacted by the project. Should an unknown population of Southern Pygmy Perch occur within the project footprint, it would be at the limit of the species range and would therefore be considered an important population.

Specific Impacts

The construction process for the transmission line structures avoids direct impacts to streams. Fourteen waterways within the project footprint have been identified as being within the indicative distribution of the species (DPI, 2022a). Indicative waterway crossings are located at Yellow Creek (V9-13) and an unnamed stream (V9-12) have been included in indicative distribution mapping for the Southern Pygmy Perch (DPI, 2022a), identified in Section 10.3. However, these streams are not considered to be of significant importance to the species as they are outside the known range of remnant populations in NSW, combined with the levels of landscape modification at these locations, and presence of existing access tracks and crossings in these locations. This is particularly so for unnamed stream (V9-12) which is in reality a chain of farm dams rather than a waterway, with the indicative access track alignment avoiding these waterbodies. It is anticipated that any constructed crossings upgrades associated with the project would contribute to overall improvements to aquatic conditions as they would be more sensitive than existing informal crossings and would not result in any additional deleterious processes.

In light of the above, this assessment of significance focusses on the potential for disturbance and residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk). Any impacts

that may occur are anticipated be localised and temporary in nature eg disturbance to instream habitats during the construction of waterway crossings for access tracks or trimming of riparian trees to facilitate transmission line installation.

Significant impact criteria

An action is likely to have a significant impact on a Vulnerable species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of an important population of a species

No existing populations of the Southern Pygmy Perch are known to occur within the project footprint and these populations would not be impacted by the project.

The project is considered unlikely to lead to a long-term decrease in the species or any population of the species. This is in consideration that as there will be no direct impacts to known habitats of the species. Any indirect impacts that may occur would be localised and temporary in nature. In addition, a number of avoidance and mitigation measures have already been incorporated into the project and detailed recommendations as to additional mitigation measures to prevent indirect impacts to potential habitats for the species have been included in this BDAR.

Reduce the area of occupancy of important population of the species;

The extent of occurrence for the species is estimated to be 168,398 square kilometers, and the area of occupancy is estimated to be 636 square kilometers (Pearce et al., 2019; TSSC, 2021c).

The project would not directly impact habitats within the known range of the species. While the project has the potential to result in impacts to potential habitats within the indicative distribution of the Southern Pygmy Perch (DPI, 2022a), these would be localised and temporary. It is considered unlikely that the scale of these indirect impacts would be significant given the history of landscape modification and existing deleterious processes operating in the streams identified as within the indicative distribution of the species (DPI, 2022a), or that these potential indirect impacts would act to render any potential habitats no longer suitable. For these reasons the project is unlikely to reduce the area of occupancy of the species.

Fragment an existing important population into two or more populations

The project is unlikely to directly impact any significant habitats for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of any potential indirect impacts would be so significant that they would render any potential habitats no longer suitable.

Fourteen waterways within the project footprint have been identified as being within the indicative distribution of the species (DPI, 2022a). Indicative waterway crossings are located at Yellow Creek (V9-13) and an unnamed stream (V9-12) have been included in indicative distribution mapping for the Southern Pygmy Perch (DPI, 2022a), identified in Section 10.3. However, these streams are not considered to be of significant importance to the species as they are outside the known range of remnant populations in NSW, combined with the levels of landscape modification at these locations, and presence of existing access tracks and crossings. This is particularly so for unnamed stream (V9-12), which is a chain of farm dams rather than a waterway, with the access track alignment avoiding these waterbodies. It is anticipated that any constructed crossings upgrades associated with the project would contribute to overall improvements

to aquatic conditions and be more sensitive than existing informal crossings and would not result in any additional deleterious processes.

The project is therefore considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species or identified in the Conservation Advice for the species.

Potential habitats within the project footprint would not be considered critical to the survival of the species. This is given the highly restricted known distribution of the species, the general absence of key habitat features and prevalence of deleterious processes such as flow regulation, grazing and riparian clearing.

Disrupt the breeding cycle of an important population

Southern Pygmy Perch breeding occurs from late winter to early spring in response to rising water temperatures. The project will not result in any impacts to water temperatures. While waterway crossings for access tracks are proposed, mitigation measures to prevent as far as practical the creation of any barriers to fish passage have been recommended, with crossings designs aligning with relevant guidelines. Any indirect impacts to potential habitats would be anticipated to be localised and temporary. As such it is unlikely that the project would disrupt the breeding cycle of a population of the species.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The project footprint does not intersect with the known distribution of any remaining populations of the species in NSW. Overall, aquatic habitats within the project footprint generally are in poor condition. The key threats to the species (habitat degradation including riparian and aquatic vegetation removal) are in operation at significant levels at each of the waterways identified as being within the indicative distribution of the species (DPI, 2022a).

Given the lack of records, the limited potential for habitat to be indirectly impacted and context of significant landscape modification, the project is not likely to contribute to a decline of the species.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species.

Introduce disease that may cause the species to decline, or

There is a low potential for any instream plant or machinery used in crossing construction to transport the Epizootic Haematopoietic Necrosis Virus (EHNV), which is known to occur within the Murrumbidgee catchment and is associated with the invasive Redfin Perch, which is also known to occur. Although it has not been established whether the Southern Pygmy Perch is susceptible to EHNV.

It has been recommended that this risk be managed through the use of wash down procedures for in-stream plant between crossing locations.

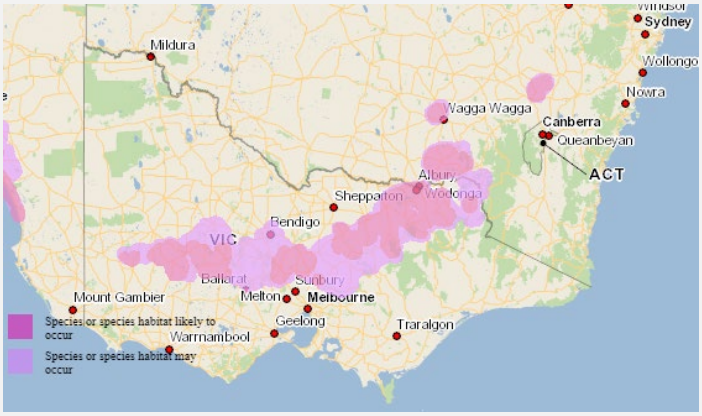
Interfere substantially with the recovery of the species

A Recovery Plan has not been prepared for the species, with the species profile (DoE, 2022b) stating that "Many of the threats to the Southern Pygmy Perch-MDB are threats to other EPBC Act-listed threatened fish species that occur within the Murray-Darling Basin. Actions and mechanisms that are being implemented through a variety of other existing programs (including in other species recovery plans, a national native fish recovery strategy, water management plans, actions being undertaken by relevant catchment management authorities) are likely to be of benefit to this species". The project would be unlikely to interfere with any of these actions or plans.

Conclusion

In line with the above findings, the project is unlikely to have a significant impact on an important population of the Southern Pygmy Perch. A summary of the NSW assessment bilateral requirements for Southern Pygmy Perch is presented in Table A18- 36.

Table A18- 36: NSW assessment bilateral requirements for Southern Pygmy Perch

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of the distribution and habitats for this species, and relevant conservation documents are provided in Section 10.2, summarised in the section above. A map of the species indicative distribution is provided below:  Overall, the species is considered unlikely to occur within the project footprint. This is given the known current distribution of the species, limited suitable habitats present and generally degraded stream conditions within the project footprint. As a precautionary approach an Assessment of Significance under the EPBC Act has been completed given indicative distribution mapping (DPI, 2022a) occurs within the project footprint. Notwithstanding differences between this indicative distribution mapping and known or inferred actual distribution (Section 10.2), and the known range of the species in published conservation documents.
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or	No targeted survey has been completed for the species as the Southern Pygmy Perch is considered to be overall unlikely to occur within the project footprint and the potential for impacts to the species is considered low. The assessment is

NSW Assessment Bilateral requirements	
justification for divergence from) published Australian Government guidelines and policy statements	informed by a detailed desktop assessment augmented by opportunistic field observations and a review of the available literature relevant to the species. This assessment has been completed on a precautionary basis given the indicative distribution mapping by DPI (2022a) includes some streams within the project footprint.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	Overall, the species is considered unlikely to occur within the project footprint. The construction process for the transmission line structures avoids direct impacts to major waterways and while two of the waterways that have been mapped as within the species indicative distribution (DPI 2022a) would be crossed by any proposed access tracks, it is unlikely to be important habitat for the species. As such, this assessment of significance focusses on the potential for residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, disturbance during waterway crossing construction and operation, erosion and sedimentation risk).
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	The proposed avoidance and mitigation measures are outlined in Chapter 12 and 14 including procedures and measures specific to the protection of aquatic environments. Avoidance measures most relevant to aquatic species include: • Avoiding wetlands protected by international agreements (Tier 1 constraint) • Avoiding where possible, and minimising impacts, in wetlands not listed as Tier 1 constraints, as well as ecological conservation areas, and water crossings greater than 800 metres • Paralleling existing transmission lines to avoid new areas of impact and utilise existing impacted areas • Targeting areas of existing disturbance, such as roads, tracks and property boundaries to reduce environmental and property impacts • Minimising direct impacts on waterways within the project footprint and higher risk erosion areas within the project footprint • New waterway crossings would be established in lower Strahler order waterways where possible. • No permanent transmission line structure infrastructure is anticipated to be located within waterbodies. The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings should be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), should be avoided or minimised. • The crossing design and construction footprint should minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings should be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings should be located in straight stream sections with well-defined channel geometries and shallow stream gradients. • Micro-siting should avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (i.e. snags, coarse woody debris, instream macrophytes, boulders).

NSW Assessment Bilateral requirements	
	• Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing. • Crossing structures should be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish). The following procedures and considerations will be incorporated into construction methodologies and operational procedures for waterway crossings, as practicable and where appropriate: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the construction footprint. This may include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream works sites should be temporarily relocated during construction and then returned to the watercourse, at locations where scour risk can be avoided. • Waterway crossing work should be constructed during no or low flow conditions and under calm weather conditions. Work should also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on any bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account the potentially flood prone nature of the land will be employed to protect against any impacts to water quality or indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoiding riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be

NSW Assessment Bilateral requirements	
	in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only natural material will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Any chemicals will be stored as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made available, and a spill response plan developed. • Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures will be implemented when refuelling. • Regular monitoring/inspections of waterway crossing and access track conditions will be undertaken during operation. • Any sections of stream or waterway banks that are impacted or modified by the project will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments. • Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. • Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	No significant residual adverse impacts to the Southern Pygmy Perch are considered likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	The species is not listed under the BC Act. As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species or Key Fish Habitat under the FM Act are proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	Not applicable, species is not listed under the BC Act.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Not applicable, species is not listed under the BC Act.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species are proposed.

2.4.3 Trout Cod (*Maccullochella macquariensis*)

The Trout Cod is listed as Endangered under the EPBC Act and the FM Act.

Description

The Tout Cod is a large sized fish with a with a deep body, a straight head profile and a protruding upper jaw (Bray & Thompson, 2019). The Trout Cod is bluish-grey to brown in colour with irregular spots or dashes, and pale underbody.

In terms of distribution, the only known naturally reproducing (non-translocated) population of Trout Cod occurs in the Murray River below Yarrawonga Weir (DPI, 2006), although stocking has occurred at various locations within the Murrumbidgee River with some success, and Tumut River, although this seems to be unsuccessful or at least the level of success undetermined (Lintermans, 2007; Trout Cod Recovery Team 2008). Indicative distribution mapping for the species (DPI, 2022a) includes the Murrumbidgee River within the project footprint.

In terms of habitat, the species occurs in a variety of flowing habitats, typically in the mid to upper reaches of rivers and streams with cover in the form of woody debris or boulders (Trout Cod Recovery Team 2008). Habitats for the species require substantial amounts of large in-stream woody debris, which provides complex habitat supporting each life-cycle stage of the species (DPI, 2017). While such habitats are limited within the project footprint, the species cannot be ruled out as occurring and an Assessment of Significance under the EPBC Act has been completed.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- No approved conservation advice for the Trout Cod.
- Recovery Plan (Trout Cod Recovery Team 2008), in effect under the EPBC Act from 27 March 2008.

Relevant Commonwealth survey guidelines for this species include:

- The Survey guidelines for Australia's threatened fish (DSEWPaC, 2011d).

Specific Impacts

The construction process for the transmission line structures avoids direct impacts to streams and none of the waterways that have been mapped as within the species indicative distribution would be crossed by any indicative access track waterway crossings. As such, this assessment of significance focusses on the potential for disturbance and residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during access track construction. Any indirect impacts that may occur are anticipated be localised and temporary in nature eg disturbance to instream habitats during the construction of waterway crossings for access tracks or trimming of riparian trees to facilitate transmission line installation.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The project is considered unlikely to lead to a long-term decrease in the species or a population of the species. This is in consideration that there will be no direct impacts to mapped indicative distributions (DPI, 2022a) of the species and any indirect impacts that may occur would be localised and temporary in nature. A number of avoidance and mitigation measures have already been incorporated into the project. Further detailed recommendations as to specific mitigation measures to prevent indirect impacts to potential habitats for the species have been included in this report.

Reduce the area of occupancy of the species

The project would not directly impact potential habitats for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of these indirect impacts would be significant given the history of landscape modification and existing deleterious processes operating in the streams identified as within the indicative distribution of the species, or that these potential indirect impacts would act to render any potential habitats no longer suitable. For these reasons the project is unlikely to reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

The project would not directly impact potential habitats for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of any potential indirect impacts would be so significant that they would render any potential habitats no longer suitable. No indicative access track crossings intersect with waterways identified as within the indicative distribution of the species (DPI, 2022a) and therefore the project will not result in any barriers to fish passage to the species. The project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species.

The National Recovery Plan for Trout Cod does not identify habitat critical to the survival of the species, but does note that an assessment of habitat critical to survival of the Trout Cod population in the Murray River found that the species inhabited river positions where large woody debris was present in high quantity, close to deeper areas of water with high surface velocity, further from the bank (Trout Cod Recovery Team, 2008).

No direct impacts to aquatic habitats within the mapped indicative distribution of the species will occur. While there is the potential for indirect impacts to occur, any indirect impacts that may occur would be temporary and localised. The potential for indirect impacts would also be mitigated by the management measures proposed in this report (Chapter 14).

Disrupt the breeding cycle of a population

Any possible indirect impacts to potential habitats for the species would be anticipated to be localised and temporary and these would be considered unlikely to occur based upon the distance of construction from the Murrumbidgee River (approximately 40 metres from the bank), as well as the mitigation measures

proposed (Chapter 14). As such it is unlikely that the project would disrupt the breeding cycle of a population of the species.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Any possible indirect impacts to potential habitats would be anticipated to be localised and temporary and these would be considered unlikely to occur based upon the distance of construction from the Murrumbidgee River (approximately 40 metres from the bank), as well as the mitigation measures proposed (Chapter 14). In light of this, the project is not likely to contribute to decline of the species.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species.

Introduce disease that may cause the species to decline, or

There is a low potential for any instream plant or machinery used in crossing construction to transport EHNV. EHNV is known to occur within the Murrumbidgee catchment and is associated with the invasive Redfin Perch, which is also known to occur in this catchment. It has not been established whether Trout Cod are susceptible to EHNV.

It has been recommended that this risk be managed through the use of wash down procedures (Chapter 14).

Interfere with the recovery of the species

The National Recovery Plan for the species (Trout Cod Recovery Team 2008) identifies the following strategies to achieve the recovery plan objectives:

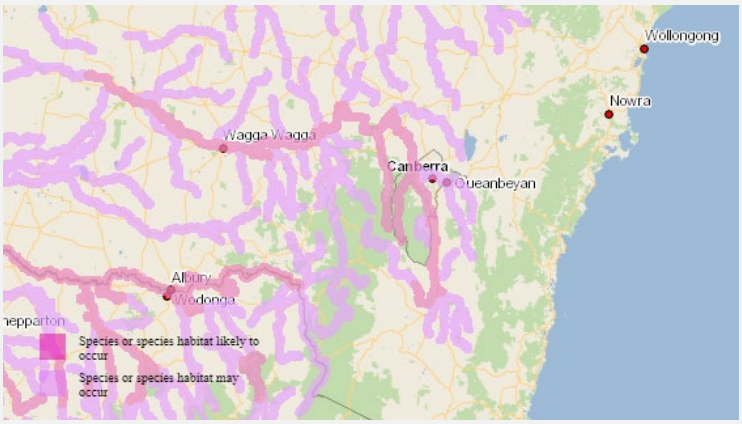
- Investigate key aspects of biology and ecology;
- Determine the growth rates and viability of populations;
- Identify and map habitat critical to survival;
- Investigate and control threatening processes;
- Manage Murray River population to ensure its continued sustainability natural and reintroduced populations to achieve self-sustainability;
- Manage Seven Creeks (Vic) population to ensure its continued sustainability;
- Manage Ovens River population to ensure its continued sustainability;
- Manage the Murrumbidgee River and Cotter River populations (ACT) to ensure their continued sustainability;
- Breed Trout Cod for reintroduction;
- Undertake reintroductions to establish new populations;
- Encourage community awareness and support;
- Trial a stocked recreational fishery for Trout Cod in Victoria;
- Manage Recovery Plan implementation.

The project would be unlikely to interfere with any of these objectives.

Conclusion

In line with the above findings, the project is unlikely to have a significant impact on the Trout Cod. A summary of the NSW assessment bilateral requirements for Trout Cod is presented in Table A18- 37.

Table A18- 37: NSW assessment bilateral requirements for Trout Cod

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, and relevant conservation documents are provided in Section 10.2. Stocking has occurred at various locations within the Murrumbidgee River with some success (Lintermans, 2007; Trout Cod Recovery Team, 2008) and indicative distribution mapping for the species (DPI, 2022a) includes the Murrumbidgee River within the project footprint. While complex flowing habitats with substantial amounts of large in-stream woody debris upon which the species is reliant (DPI, 2017) are limited within the project footprint, the species cannot be ruled out as occurring. No waterway crossings of the Murrumbidgee River are proposed under the indicative access track mapping and as such no direct impacts to habitats for the species would occur, however the species could be subject to indirect impacts arising from the project. A map of the species indicative distribution (DEE, 2018) is provided below: 
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	No targeted survey has been completed for the species due to the limited potential for serious impacts to the species. The assessment is informed by a detailed desktop assessment augmented by opportunistic field observations and a review of the available literature relevant to the species.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The construction process for the transmission line structures avoids direct impacts to major waterways and none of the waterways that have been mapped as within the species indicative distribution (DPI, 2022a) intersect with indicative access track mapping. As such, this assessment of significance focusses on the potential for residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during construction.
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	The proposed avoidance and mitigation measures are outlined in Chapter 12 and 14 including procedures and measures specific to the protection of aquatic environments. Avoidance measures most relevant to aquatic species include:

NSW Assessment Bilateral requirements	
	• Avoiding wetlands protected by international agreements (Tier 1 constraint) • Avoiding where possible, and minimising impacts, in wetlands not listed as Tier 1 constraints, as well as ecological conservation areas, and water crossings greater than 800 metres • Paralleling existing transmission lines to avoid new areas of impact and utilise existing impacted areas • Targeting areas of existing disturbance, such as roads, tracks and property boundaries to reduce environmental and property impacts • Minimising direct impacts on waterways within the project footprint and higher risk erosion areas within the project footprint • New waterway crossings would be established in lower Strahler order waterways where possible. • No permanent transmission line structure infrastructure is anticipated to be located within waterbodies. The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings should be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), should be avoided or minimised. • The crossing design and construction footprint should minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings should be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings should be located in straight stream sections with well-defined channel geometries and shallow stream gradients. • Micro-siting should avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (i.e. snags, coarse woody debris, instream macrophytes, boulders). • Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing. • Crossing structures should be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish). The following procedures and considerations will be incorporated into construction methodologies and operational procedures for waterway crossings, as practicable and where appropriate: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the construction footprint. This may

NSW Assessment Bilateral requirements	
	include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream works sites should be temporarily relocated during construction and then returned to the watercourse, at locations where scour risk can be avoided. • Waterway crossing work should be constructed during no or low flow conditions and under calm weather conditions. Work should also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on any bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account the potentially flood prone nature of the land will be employed to protect against any impacts to water quality or indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoiding riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only natural material will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Any chemicals will be stored as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made available, and a spill response plan developed. • Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures will be implemented when refuelling. • Regular monitoring/inspections of waterway crossing and access track conditions will be undertaken during operation. • Any sections of stream or waterway banks that are impacted or modified by the project will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments. • Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. • Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use.

NSW Assessment Bilateral requirements	
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	No significant residual adverse impacts to the Trout Cod are considered likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	The species is not listed under the BC Act. As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species or Key Fish Habitat under the FM Act are proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	Not applicable, species is not listed under the BC Act.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Not applicable, species is not listed under the BC Act.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species are proposed.

2.4.4 Macquarie Perch (*Macquaria australasica*)

The Macquarie Perch is listed as Endangered under the EPBC Act and the FM Act.

Description

The Macquarie Perch is a medium sized fish with a deep, laterally compressed body growing up to 465 millimetres in length (Lintermans, 2007). Individuals are generally black-grey or bluish grey, with a rounded tail and large white eye.

In terms of distribution, Macquarie Perch from the Murray-Darling Basin strain of the species may occur in the upstream reaches of the Lachlan, Murrumbidgee and Murray rivers. Indicative distribution mapping by DPI for the species includes the Lachlan River and Adjungbilly Creek within the project footprint (DPI, 2022a), although a number of streams may be within the historic distribution of the species (DPI, 2015; DPI, 2016a). Overall, the species is considered unlikely to occur within the Murrumbidgee River in the project footprint, with the known population of the species in this river occurring in upstream reaches south of Canberra (DEE, 2018).

In terms of habitat, the Macquarie Perch may occur in stream or lake habitats, with a preference for upper river reaches or tributaries, and lake dwelling individuals of the species will migrate into these habitats to spawn (DPI, 2016a). Typical habitat for the species is described as being a large and moderately deep pool immediately upstream of fast-flowing broken water with aquatic vegetation and additional cover in the form of large boulders, debris and overhanging banks, with stream shading provided by steep rock faces, riparian trees or over hanging bank vegetation (DEE, 2018). Indicative distribution mapping (DPI, 2022a) for the species includes the Lachlan River and Adjungbilly Creek within the project footprint.

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice for the Macquarie Perch, in effect under the EPBC Act from 17 December 2013.
- A Recovery Plan (DEE, 2018), in effect under the EPBC Act from 09 February 2019.

Relevant Commonwealth survey guidelines for this species include:

- The Survey guidelines for Australia's threatened fish (DSEWPaC, 2011d).

Specific Impacts

The construction process for the transmission line structures avoids direct impacts to streams and none of the waterways that have been mapped as within the species indicative distribution would be crossed by indicative access tracks waterway crossing mapping. As such, this assessment of significance focusses on the potential for disturbance and residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during access track construction. Any indirect impacts that may occur are anticipated be localised and temporary in nature eg disturbance to instream habitats during the construction of waterway crossings for access tracks or trimming of riparian trees to facilitate transmission line installation.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The project is considered unlikely to lead to a long-term decrease in the species or a population of the species. This is in consideration that there would be no direct impacts to mapped indicative distributions (DPI, 2022a) of the species and any indirect impacts that may occur would be localised and temporary in nature. A number of avoidance and mitigation measures have already been incorporated into the project. Further detailed recommendations as to specific mitigation measures to prevent indirect impacts to potential habitats for the species have been included in this report (Chapter 14).

Reduce the area of occupancy of the species;

The project would not directly impact potential habitats for the species and although the project has the potential to result in indirect impacts to habitats, these would be localised and temporary. It is considered unlikely that the scale of these indirect impacts would be significant given the history of landscape modification and existing deleterious processes operating in the streams identified as within the indicative distribution of the species, or that these potential indirect impacts would act to render any potential habitats no longer suitable. For these reasons the project is unlikely to reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

The project would not directly impact potential habitats for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of any potential indirect impacts would be so significant that they would render any potential habitats no longer suitable. No indicative access track crossings intersect with waterways identified as within the indicative distribution (DPI, 2022a) and therefore the project is unlikely to result in any barriers to fish passage to the species. The project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species.

- The National Recovery Plan for the Macquarie Perch (DEE, 2018) identifies critical habitat as:
  - All areas within the species' range which are characterised by flowing runs or riffles and small complex rock piles;
  - The current area of occupancy of the species (including historically translocated populations in Cataract Reservoir and the Mongarlowe River in New South Wales and the Yarra River in Victoria);
  - Any newly discovered locations within the species' natural range which hold populations that extend the area of occupancy for the species;
  - Unoccupied habitat within the species' natural range into which the species could disperse, be stocked or be translocated.

Whilst referenced in the National Recovery Plan for the species (DEE, 2018), the document does not define the area of occupancy of the species. The project footprint does extend into the natural range of the species as described in DEE (2018), as it includes Adjungbilly Creek. Sections of riffle may be present along reaches of Adjungbilly Creek and the Lachlan River within or adjacent to the project footprint, as such these habitats may be considered critical habitat.

No direct impacts to critical habitat would occur as a result of the project. Any indirect impacts that may occur would be temporary and localised. The key potential indirect impact that could occur would be the potential for sedimentation associated with construction work that could infill the interstitial spaces between rocks and pebbles used by the species for spawning. This is considered unlikely to occur given mitigation measures proposed to control this risk (Chapter 14) and the distance at which construction would be taking place from these reaches that may be considered critical habitat (approximately 40 metres from the bank).

Disrupt the breeding cycle of a population

The key potential disruption that could occur would be the potential for sedimentation associated with construction work that could infill the interstitial spaces between rocks and pebbles used by the species for spawning. This is considered unlikely to occur given mitigation measures proposed to control this risk (Chapter 14) and the distance at which construction would be taking place from the reaches of the Lachlan River and Adjungbilly Creek (approximately 40 metres from the bank). Establishing barriers to fish passage may also disrupt breeding movements of the species into more upstream habitats for spawning. However, the proposed waterway crossings are not identified as being within indicative distribution of the species

(DPI, 2022a) and would be designed and constructed in line with the relevant guidelines to avoid disrupting fish passage as far as practicable.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Overall, aquatic habitats within the project footprint generally are in poor condition. No direct impacts to potential habitats for this species would occur and any indirect impacts would be localised and temporary. A number of mitigation measures have also been proposed to further mitigate the risk of indirect impacts. When this is considered in the context of existing landscape modification, the project is not likely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species.

Introduce disease that may cause the species to decline, or

There is a low potential for any instream plant or machinery used in crossing construction to transport the Epizootic Haematopoietic Necrosis Virus (EHNV), to which Macquarie Perch are susceptible. EHNV is known to occur within the Murrumbidgee catchment and is associated with the invasive Redfin Perch, which is also known to occur in this catchment.

It has been recommended that this risk be managed through the use of wash down procedures (Chapter 14).

Interfere with the recovery of the species

The National Recovery Plan for the species (DEE, 2018) identifies the following strategies to achieve the recovery plan objectives:

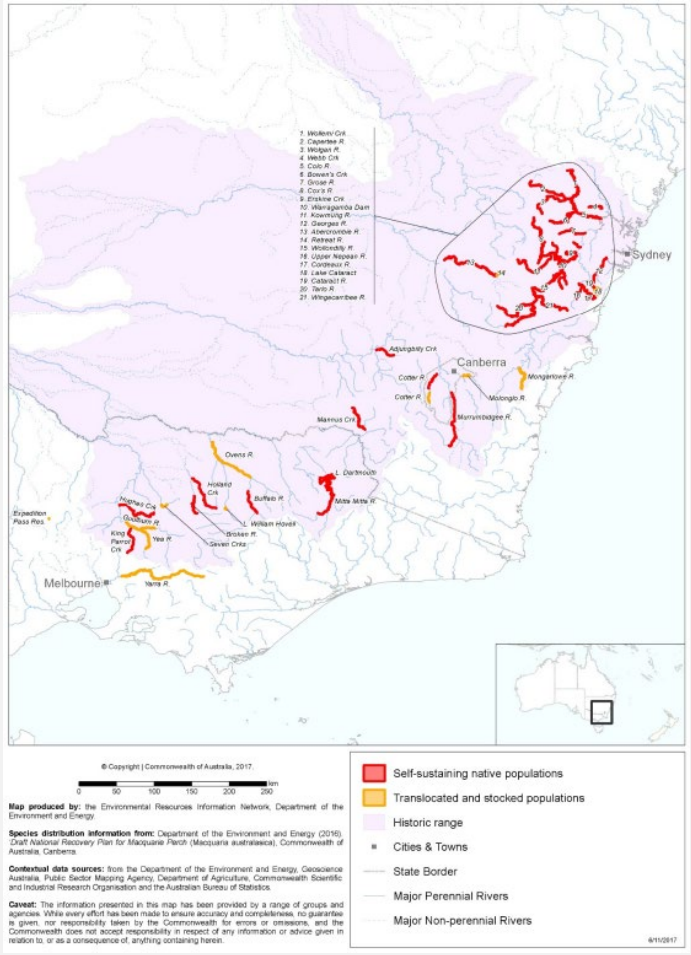
- Conserve existing Macquarie perch (including historically translocated populations in Cataract Reservoir and the Mongarlowe and Yarra rivers);
- Protect and restore Macquarie perch habitat;
- Understand and address threats to Macquarie perch populations and habitats;
- Establish additional Macquarie perch populations within the species' natural range;
- Improve understanding of the biology and ecology of the Macquarie perch and its distribution and abundance; and
- Increase participation by community groups in Macquarie perch conservation.

The project would not directly interfere with these strategies or associated actions.

Conclusion

In line with the above findings, the project is unlikely to have a significant impact on the Macquarie Perch. A summary of the NSW assessment bilateral requirements for Macquarie Perch is presented in Table A18-38.

Table A18- 38: NSW assessment bilateral requirements for Macquarie Perch

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, and relevant conservation documents are provided in Section 10.2. Indicative distribution mapping (DPI 2022a) for the species includes the Lachlan River and Adjungbilly Creek within the project footprint, although a number of streams may be within the historic distribution of the species (DPI, 2015; DPI, 2016a). Overall, the species is considered unlikely to occur within the Murrumbidgee River in the project footprint, with the known population of the species in this river occurring in upstream reaches south of Canberra (DEE, 2018). A map of the species indicative distribution (DEE, 2018) is provided below: 
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	No targeted survey has been completed for the species due to the limited potential for impacts to the species. The assessment is informed by a detailed desktop assessment augmented by opportunistic field observations and a review of the available literature relevant to the species.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The construction process for the transmission line structures avoids direct impacts to major waterways and none of the waterways that have been mapped as within the species indicative distribution (DPI, 2022a) would be crossed by any proposed access tracks by waterway crossings. As such, this assessment of significance focusses on the potential for residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during construction.

NSW Assessment Bilateral requirements	
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	The proposed avoidance and mitigation measures are outlined in Chapter 12 and 14 including procedures and measures specific to the protection of aquatic environments. Avoidance measures most relevant to aquatic species include: • Avoiding wetlands protected by international agreements (Tier 1 constraint) • Avoiding where possible, and minimising impacts, in wetlands not listed as Tier 1 constraints, as well as ecological conservation areas, and water crossings greater than 800 metres • Paralleling existing transmission lines to avoid new areas of impact and utilise existing impacted areas • Targeting areas of existing disturbance, such as roads, tracks and property boundaries to reduce environmental and property impacts • Minimising direct impacts on waterways within the project footprint and higher risk erosion areas within the project footprint • New waterway crossings would be established in lower Strahler order waterways where possible. • No permanent transmission line structure infrastructure is anticipated to be located within waterbodies. The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings should be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), should be avoided or minimised. • The crossing design and construction footprint should minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings should be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings should be located in straight stream sections with well-defined channel geometries and shallow stream gradients. • Micro-siting should avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (i.e. snags, coarse woody debris, instream macrophytes, boulders). • Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing. • Crossing structures should be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish).

NSW Assessment Bilateral requirements	
	The following procedures and considerations will be incorporated into construction methodologies and operational procedures for waterway crossings, as practicable and where appropriate: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the construction footprint. This may include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream works sites should be temporarily relocated during construction and then returned to the watercourse, at locations where scour risk can be avoided. • Waterway crossing work should be constructed during no or low flow conditions and under calm weather conditions. Work should also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on any bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account the potentially flood prone nature of the land will be employed to protect against any impacts to water quality or indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoiding riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only natural material will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Any chemicals will be stored as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made available, and a spill response plan developed. • Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures will be implemented when refuelling. • Regular monitoring/inspections of waterway crossing and access track conditions will be undertaken during operation. • Any sections of stream or waterway banks that are impacted or modified by the project will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments. • Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to

NSW Assessment Bilateral requirements	
	construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. • Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	No significant residual adverse impacts to the Macquarie Perch are considered likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	The species is not listed under the BC Act. As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species or Key Fish Habitat under the FM Act are proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	Not applicable, species is not listed under the BC Act.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Not applicable, species is not listed under the BC Act.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species are proposed.

2.4.5 Silver Perch (*Bidyanus bidyanus*)

The Silver Perch is listed as Critically Endangered under the EPBC Act and Vulnerable under the FM Act.

Description

The Silver Perch is a large-bodied fish species with a dark grey to silvery greyish-brown colour with dark silvery scale margins in a reticulated pattern, and a whitish belly (Bray & Thompson, 2021).

In terms of distribution, Silver Perch are endemic to the Murray-Darling system (including all states and sub-basins) and previously occurred in a range of habitats. Silver Perch are generally found in lowland areas outside of cooler upstream waters, although the species may undertake large scale migrations into upstream reaches. Indicative distribution mapping for the species within the project footprint includes the Murrumbidgee River (DPI, 2022a; DPI, 2016b; DPI, 2022a), although currently there is only one known strong viable natural population in the middle Murray region (TSSC, 2013).

In terms of habitat, Silver Perch are generally found in faster flowing streams, including rapid habitats, in more open water habitats. Although the species has also been stocked into impoundments.

River regulation, habitat degradation (in particular loss of submerged aquatic macrophytes and siltation), disease and invasive fish species are all identified as key threats to the species (TSSC, 2013).

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for this species is as follows:

- Approved conservation advice (TSSC, 2013) in effect under the EPBC Act from 21 December 2013.
- A Recovery Plan for the species is not required.

Relevant Commonwealth survey guidelines for this species include:

- The Survey guidelines for Australia's threatened fish, (DSEWPaC, 2011d).

Specific Impacts

The construction process for the transmission line structures avoids direct impacts to streams and none of the waterways that have been mapped as within the species indicative distribution intersect with the indicative access tracks and waterway crossings. As such, this assessment of significance focusses on the potential for disturbance and residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during access track construction. Any indirect impacts that may occur are anticipated be localised and temporary in nature eg disturbance to instream habitats during the construction of waterway crossings for access tracks or trimming of riparian trees to facilitate transmission line installation.

Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

Lead to a long-term decrease in the size of a population of a species

The project is considered unlikely to lead to a long-term decrease in the species or a population of the species. This is in consideration that there will be no direct impacts to mapped indicative distributions (DPI, 2022a) of the species and any indirect impacts that may occur would be localised and temporary in nature. A number of avoidance and mitigation measures have already been incorporated into the project. Further detailed recommendations as to specific mitigation measures to prevent indirect impacts to potential habitats for the species have been included in this report.

Reduce the area of occupancy of the species

The project would not directly impact potential habitats for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of these indirect impacts would be significant given the history of landscape modification and existing deleterious processes operating in the streams identified as within the indicative distribution of the species, or that these potential indirect impacts would act to render any potential habitats no longer suitable. For these reasons the project is unlikely to reduce the area of occupancy of the species.

Fragment an existing population into two or more populations

The project would not directly impact potential habitats for the species and although the project has the potential to result in indirect impacts to potential habitats, these would be localised and temporary. It is considered unlikely that the scale of any potential indirect impacts would be so significant that they would render any potential habitats no longer suitable. No indicative access track waterway crossings intersect with waterways within the mapped indicative distributions for the species (DPI, 2022a) and therefore the project would not result in any barriers to fish passage to the species. The project is considered unlikely to fragment an existing population into two or more populations.

Adversely affect habitat critical to the survival of a species

To date, no Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat for the species, or any National Recovery Plan prepared.

No direct impacts to aquatic habitats within the mapped indicative distributions for the species will occur. While there is the potential for indirect impacts to occur, these would be mitigated by the management measures proposed in this report.

Disrupt the breeding cycle of a population

The project would not result in any direct impacts to fish habitat. Any possible indirect impacts to potential habitats would be anticipated to be localised and temporary and these would be considered unlikely to occur based upon the distance of construction from the Murrumbidgee River (approximately 40 metres from the bank), as well as the mitigation measures proposed (Chapter 14). As such it is unlikely that the project would disrupt the breeding cycle of a population of the species.

Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Any possible indirect impacts to potential habitats would be anticipated to be localised and temporary and these would be considered unlikely to occur based upon the distance of construction from the Murrumbidgee River (approximately 40 metres from the bank), as well as the mitigation measures proposed (Chapter 14). In light of this, the project is not likely to contribute to decline of the species.

Result in invasive species that are harmful to an endangered or critically endangered species becoming established in the endangered or critically endangered species' habitat

The project is not likely to result in the introduction of invasive species that may become established in habitat for the species.

Introduce disease that may cause the species to decline, or

There is a low potential for any instream plant or machinery used in crossing construction to transport EHNV. EHNV is known to occur within the Murrumbidgee catchment and is associated with the invasive Redfin Perch, which is also known to occur in this catchment. Silver Perch is known to be susceptible to EHNV.

It has been recommended that this risk be managed through the use of wash down procedures (Chapter 14).

Interfere with the recovery of the species

A National Recovery Plan has not been prepared for the species.

The Conservation Advice (TSSC, 2013) for the species identifies a number of Priority Conservation Actions, including:

- Support and enhance existing native fish monitoring programs. Start a basin-wide monitoring program specifically for Silver Perch
- Further research into the recruitment ecology of Silver Perch, and the potential for managed flow events (both flood and within-channel) to facilitate Silver Perch spawning and recruitment
- Further research into how to avoid or minimise blackwater events during both natural and artificial flooding events
- Further research into alien pathogens, some possibly unidentified, that may be involved in past Silver Perch decline, including collection and examination of specimens from Silver Perch kills
- Investigate options to reduce the impacts of thermal pollution (ie un-naturally cold water released from the base of dams).
- Modify structures currently blocking migration of Silver Perch wherever possible (eg fishways on weirs)
- Avoid installing new structures that impede migration of all life stages of Silver Perch
- Avoid installing undershot weirs that kill drifting native fish larvae, and consider modifying current undershot weirs to an 'overshot' design
- Install screens at irrigation offtake/diversion points to reduce entrainment of Silver Perch eggs, larvae, juveniles and adults
- Manage any changes to hydrology that may result increased salinity, algal blooms, sedimentation or pollution.
- Return small daily variations to river flows, eg 0.15 m rises and falls, in standard river management instead of highly regulated flows to encourage spawning events.
- Initiate spring river rises for spawning.
- Explore the use of larger environmental flow events, particularly the use of environmental water to "top-up" natural flood events, to improve Silver Perch spawning (eg King et al., 2008).
- Avoid river management and environmental watering practices that may create or exacerbate blackwater events, including in terms of seasonality (ie late spring or summer flood events are more likely to create blackwater).
- Develop and implement a stock management plan for important Silver Perch habitats to limit degradation by cattle trampling.
- Develop and implement a management plan for alien fish species that affect Silver Perch, particularly carp (*Cyprinus carpio*) and gambusia (*Gambusia holbrooki*)
- Carefully consider potential impacts of fish stockings, including disease introduction, in any sites known to support wild Silver Perch.
- Develop and implement suitable hygiene protocols to protect known sites from further outbreaks of EHN virus, Epizootic Ulcerative Syndrome (aka 'red spot disease') and parasitic protozoans such as Chilodonella, including from contaminated fish stockings
- Investigate control measures for Lernaea (aka 'anchor worm') and Asian fish tapeworm.
- Raise awareness of Silver Perch within the community
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions.

- Attempt to re-establish lost, formerly significant populations (eg ACT reaches of Murrumbidgee River) through conservation stocking and translocation using broodfish sourced from the middle Murray region population, which may now have greater resistance to alien pathogens likely involved in the loss of original populations.

The project would be unlikely to interfere with any of these actions.

Conclusion

In line with the above findings, the project is unlikely to have a significant impact on the Silver Perch.

Table A18- 39: NSW assessment bilateral requirements for Silver Perch

NSW Assessment Bilateral requirements	
Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	A description of habitat for this species, and relevant conservation documents are provided in Section 10.2. Silver Perch are generally found in lowland areas outside of cooler upstream waters, although the species may undertake large scale migrations into upstream reaches. Indicative distribution mapping for the species within the project footprint includes the Murrumbidgee River (DPI, 2016b; DPI, 2022a), although currently there is only one known strong viable natural population in the middle Murray region (TSSC, 2013). No waterway crossings of the Murrumbidgee are proposed and as such no direct impacts to habitats for the species would occur, however the species could be subject to indirect impacts arising from the project. A map of the species indicative distribution is provided below:
Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	No targeted survey has been completed for the species due to the limited potential for impacts to the species. The assessment is informed by a detailed desktop assessment augmented by opportunistic field observations and a review of the available literature relevant to the species.
Description of the relevant impacts and its regard to the full national extent of the species or community's range	The construction process for the transmission line structures avoids direct impacts to major waterways and none of the waterways that have been mapped as within the species indicative distribution (DPI, 2022a) would be crossed by any indicative access tracks and waterway crossings. As such, this assessment of significance focusses on the potential for residual indirect impacts to potential habitats following the implementation of avoidance and mitigation measures (Chapter 14), to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk) during construction.

NSW Assessment Bilateral requirements	
Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	The proposed avoidance and mitigation measures are outlined in Chapter 12 and 14 including procedures and measures specific to the protection of aquatic environments. Avoidance measures most relevant to aquatic species include: • Avoiding wetlands protected by international agreements (Tier 1 constraint) • Avoiding where possible, and minimising impacts, in wetlands not listed as Tier 1 constraints, as well as ecological conservation areas, and water crossings greater than 800 metres • Paralleling existing transmission lines to avoid new areas of impact and utilise existing impacted areas • Targeting areas of existing disturbance, such as roads, tracks and property boundaries to reduce environmental and property impacts • Minimising direct impacts on waterways within the project footprint and higher risk erosion areas within the project footprint • New waterway crossings would be established in lower Strahler order waterways where possible. • No permanent transmission line structure infrastructure is anticipated to be located within waterbodies. The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings should be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), should be avoided or minimised. • The crossing design and construction footprint should minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings should be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings should be located in straight stream sections with well-defined channel geometries and shallow stream gradients. • Micro-siting should avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (i.e. snags, coarse woody debris, instream macrophytes, boulders). • Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing. • Crossing structures should be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish).

NSW Assessment Bilateral requirements	
	The following procedures and considerations will be incorporated into construction methodologies and operational procedures for waterway crossings, as practicable and where appropriate: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the construction footprint. This may include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream works sites should be temporarily relocated during construction and then returned to the watercourse, at locations where scour risk can be avoided. • Waterway crossing work should be constructed during no or low flow conditions and under calm weather conditions. Work should also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on any bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account the potentially flood prone nature of the land will be employed to protect against any impacts to water quality or indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoiding riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only natural material will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Any chemicals will be stored as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made available, and a spill response plan developed. • Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures will be implemented when refuelling. • Regular monitoring/inspections of waterway crossing and access track conditions will be undertaken during operation. • Any sections of stream or waterway banks that are impacted or modified by the project will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments.

NSW Assessment Bilateral requirements	
	• Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. • Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use.
Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	No significant residual adverse impacts to the Silver Perch are considered likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account.
A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	The species is not listed under the BC Act. As no net loss of key fish habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species or key fish habitats under the FM Act are proposed.
Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	Not applicable, species is not listed under the BC Act.
Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Not applicable, species is not listed under the BC Act.
Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	As no net loss of Key Fish Habitat, or significant impacts to threatened aquatic species are anticipated to occur as a result of the project, no offsets for aquatic species are proposed.

2.5 Migratory species

Migratory species listed under EPBC Act, with a moderate or higher likelihood of occurrence within the project footprint, include, Fork-tailed Swift (*Apus pacificus*), Sharp-tailed Sandpiper (*Calidris acuminata*), Red-necked Stint (*Calidris ruficollis*), Latham's Snipe (*Gallinago hardwickii*), White-throated Needletail (*Hirundapus caudacutus*), Black-faced Monarch (*Monarcha melanopsis*), Satin Flycatcher (*Myiagra cyanoleuca),* Rufous Fantail (*Rhipidura rufifrons*), Common Greenshank (*Tringa nebularia*), and Marsh Sandpiper (*Tringa stagnatilis*).

Species descriptions and habitat requirements, relevant project impacts, MNES assessments for each migratory species and assessment under the NSW Bilateral assessment requirements are provided below. A summary of species habitat requirements and likely impacts from the project are summarised below in Table A18- 40.

Table A18- 40: Migratory bird species descriptions and project impacts

Species	Migratory listings	Description	Summary of specific Impacts
Black-faced Monarch (*Monarcha melanopsis*)	Migratory under the EPBC Act, and Bonn Migratory Agreement	The Black-faced Monarch is widespread in eastern Australia (DoE, 2022c). In New South Wales and the Australian Capital Territory, the species occurs around the eastern slopes and tablelands of the Great Divide, inland to Coutts Crossing, Armidale, Widden Valley, Wollemi National Park, Wombeyan Caves and Canberra (DoE, 2022c). The Black-faced Monarch exhibits migratory behaviour, spending spring, summer, and autumn in eastern Australia where they breed, and wintering in southern and eastern Papua New Guinea from March to August (DoE, 2022c). The Black-faced Monarch mainly occurs in rainforest ecosystems, including selectively logged and 20—30 years old regrowth rainforest (DoE, 2022c). The species also occurs in open eucalypt forests (mainly wet sclerophyll forests), especially in gullies with a dense, shrubby understorey, and dry sclerophyll forests and woodlands, often with a patchy understorey (DoE, 2022c). The species especially occurs in 'marginal' habitats during winter or during passage (migration) (DoE, 2022c). Other areas in which the Black-faced Monarch may be found include gullies in mountain areas or coastal foothills, softwood scrub dominated by Brigalow (*Acacia harpophylla*), coastal scrub dominated by Coast Banksia (*Banksia integrifolia*) and Southern Mahogany (*Eucalyptus botryiodes*), occasionally among mangroves and sometimes in suburban parks and gardens (DoE, 2022c).	The project has the potential to remove approximately 131.13 ha of potential habitat. There are no records of the species in proximity to the project footprint, however, the species is known to primarily occupy wet sclerophyll vegetation formations. Based on the transient nature of the species, no nearby records, and the implementation of appropriate mitigation measures a significant impact is unlikely.
Common Greenshank (*Tringa nebularia*)	Migratory under the following EPBC Act migratory agreements: Bonn, CAMBA, JAMBA and ROKAMBA	The Common Greenshank is a heavily built, elegant wader, 30–35 cm in length, with a wingspan of 55–65 cm and weight up to 190 g for both males and females (DCCEEW, 2022j). The bill is long and slightly upturned, and the legs are long and yellowish green (DCCEEW, 2022j). In flight, all plumages show uniformly dark upper wing and contrasting white rump extending in a white wedge up the back, whitish tail and tips of toes projecting slightly beyond the tip of the tail (DCCEEW, 2022j). The Common Greenshank does not breed in Australia; however, the species occurs in all types of wetlands and has the widest distribution of any shorebird in Australia (DCCEEW, 2022j). In NSW the species has been recorded in most coastal regions (DCCEEW, 2022j). It is widespread west of the Great Dividing Range, especially between the Lachlan and Murray	Based on the ecology (highly transient) of Common Greenshank, the species is at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). Based on the indicative disturbance area, the project has the potential to also impact 54.98 ha of riparian habitat indirectly within the Bondo and Inland Slopes portion of the project footprint.

Species	Migratory listings	Description	Summary of specific Impacts
		Rivers and the Darling River drainage basin, including the Macquarie Marshes, and north-west regions (DCCEEW, 2022j). The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity (DCCEEW, 2022j). Habitats include embayment, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms (DCCEEW, 2022j). The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and salt flats (DCCEEW, 2022j). It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores (DCCEEW, 2022j). The species is known to forage at edges of wetlands, in soft mud on mudflats, in channels, or in shallows around the edges of water (DCCEEW, 2022j). It will occasionally feed on exposed seagrass beds (DCCEEW, 2022j). The Common Greenshank roosts and loafs around wetlands, in shallow pools and puddles, or slightly elevated on rocks, sandbanks or small muddy islets (DCCEEW, 2022j). The species is known to have roosted on an inland claypan near Roebuck Bay, Western Australia (DCCEEW, 2022j).	Considering the above factors, the project has the potential to significantly impact the species.
Fork-tailed Swift (*Apus pacificus*)	Migratory under the following EPBC Act migratory agreements: CAMBA, JAMBA and ROKAMBA	The Fork-tailed Swift is a medium to large member of the Apodidae Family (DCCEEW, 2022f). It has a length of 18–21 cm, a wingspan of 40–42 cm and weighs around 30–40 g (DCCEEW, 2022f). It is a medium-sized Swift, with a slim body with long scythe-shaped wings that taper to finely pointed tips (DCCEEW, 2022f). It is characterized by a long and deeply forked tail. The Fork-tailed Swift is mainly blackish with a white band across the rump (DCCEEW, 2022f). There is also a white patch on the chin and throat (DCCEEW, 2022f). The body, tail and upper wings are black-brown and they have a faint pale scaling to the saddle and white scalloping to the underbody (DCCEEW, 2022f). The Fork-tailed Swift is a non-breeding visitor to all states and territories of Australia (DCCEEW, 2022f). In NSW, the Fork-tailed Swift is recorded in all regions (DCCEEW, 2022f). Many records occur east of the Great Divide; however, a few populations have been found west of the Great Divide (DCCEEW, 2022f). These are widespread but scattered further west of the line joining Bourke and Dareton (DCCEEW 2022f). Sightings have been recorded at Milparinka, the Bulloo River and Thurloo Downs (DCCEEW, 2022f).	The species is known to occupy the airspace above most vegetation formations, and riparian habitats found within the project footprint (records within Bondo and Inland Slopes portion of the project footprint). The project has the potential to remove approximately 727.40 ha of non-breeding habitat. Given the aerial nature of the species, the proposed transmission lines may pose a potential collision risk within riparian habitats association with wetlands and major waterbodies that intersect or are within 1 km of the project footprint (Attachment 21). However, given the species size and known manoeuvrability, it is likely that any potential collision risk would generally be low.

Species	Migratory listings	Description	Summary of specific Impacts
		The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher (DCCEEW, 2022f). In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas (DCCEEW, 2022f). They often occur over cliffs and beaches and also over islands and sometimes well out to sea (DCCEEW 2022f). They also occur over settled areas, including towns, urban areas and cities (DCCEEW, 2022f). They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh (DCCEEW, 2022f). They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes (DCCEEW, 2022f). The sometimes occur above rainforests, wet sclerophyll forest or open forest or plantations of pines (DCCEEW, 2022f). They forage aerially, up to hundreds of metres above ground, but also less than 1 m above open areas or over water (DCCEEW, 2022f). They sometimes feed aerially among tree-tops in open forest. They probably roost aerially but are occasionally observed to land (DCCEEW, 2022f). They were once recorded roosting in trees, using a bare exposed branch emergent above the foliage (DCCEEW, 2022f).	Considering the above factors, a precautionary significant impact has been identified for the species as a result of the project.
Latham's Snipe (*Gallinago hardwickii*)	Migratory under the following EPBC Act migratory agreements: Bonn, JAMBA and ROKAMBA	Latham's Snipe is a medium sized wader, and the largest snipe in Australia, with a length of 29-33 cm, a wingspan of 50-54 cm and a mass of 150-230 g (DCCEEW, 2022i). It has a long straight bill, rather short broad pointed wings, a long tail and short legs (DCCEEW, 2022i). The cryptic plumage is intricately marked with barring and chevrons of buff, black and various shades of brown, with blackish-brown stripes across the crown and cream streaks down the back (DCCEEW, 2022i). The belly and parts of the head are white, and the tail is rufous with a white tip (DCCEEW, 2022i). The colour of the bill varies from pale-brown to olive, becoming blackish at the distal third and olive-yellow at the base, and the legs and feet are olive-grey to olive in colour (DCCEEW, 2022i). Latham's Snipe is a non-breeding visitor to south-eastern Australia (DCCEEW, 2022i). The species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern South Australia (DCCEEW, 2022i). The range extends inland over the eastern tablelands in south-eastern Queensland, and to west of the Great Dividing Range in New South Wales (DCCEEW, 2022i). In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level (DCCEEW, 2022i). They usually inhabit open, freshwater wetlands with low,	There are a couple of Latham's Snipe records along the Murrumbidgee River (intersecting the project footprint) (Figure 13-15). Records were also present around Lake Albert, and along the Murrumbidgee River in Wagga Wagga, NSW. Based on review of literature and species records, Latham's Snipe are at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). Based on the indicative disturbance area, the project has the potential to also impact 54.98 ha of riparian habitat indirectly within the Bondo and Inland Slopes portion of the project footprint.

Species	Migratory listings	Description	Summary of specific Impacts
		dense vegetation (DCCEEW, 2022i). However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (DCCEEW, 2022i). The foraging habitats of Latham's Snipe are characterized by areas of mud and some form of cover such as low, dense vegetation (DCCEEW, 2022i). The snipe roost on the ground within or near their foraging areas, usually in sites that provide some degree of shelter, eg, vegetation, in drainage ditches, boulders, or in shallow water if cover is unavailable (DCCEEW, 2022i).	Considering the above factors, the project has the potential to significantly impact the species.
Marsh Sandpiper (***Tringa stagnatilis***)	Migratory under the following EPBC Act migratory agreements: Bonn, CAMBA, JAMBA and ROKAMBA	The Marsh Sandpiper is a medium sized member of the Tringinae family. It has a length of 22–26 cm, a wingspan of 40–45 cm and a weight of 70 g (DCCEEW, 2022k). In all plumages the species shows a contrasting outer wing, a very pale whitish tail and a bold white wedge up the back (DCCEEW, 2022k). The Marsh Sandpiper is found on coastal and inland wetlands throughout Australia (DCCEEW, 2022k). The species is recorded in all regions of NSW but especially the central and south coasts and inland on the western slopes of Great Divide and western plains (DCCEEW, 2022k). The Marsh Sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks (DCCEEW, 2022k). They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes (DCCEEW, 2022k). The Marsh Sandpiper usually forages in shallow water at the edge of wetlands (DCCEEW, 2022k). They probe wet mud of mudflats or feed among marshy vegetation (DCCEEW, 2022k). The Marsh Sandpiper has been recorded roosting or loafing on tidal mudflats, near low saltmarsh, and around inland swamps (DCCEEW, 2022k).	There are records of this species within the Inland Slopes portion of the project footprint. the species is at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). Based on the indicative disturbance area, the project has the potential to also impact 54.98 ha of riparian habitat indirectly within the Inland Slopes and Bondo portion of the project footprint. Considering the above factors, the project has the potential to significantly impact the species.
Red-necked Stint (***Calidris ruficollis***)	Migratory under the following EPBC Act migratory agreements: Bonn, CAMBA,	The Red-necked Stint is a small Calidridinae approximately 13–16 cm in length and is the smallest shorebird in Australia (DCCEEW, 2022h). It weighs 25 g and has a wingspan between 29 and 33 cm. The species is characterised by a small head, steep rounded forehead, and long thickset body with an attenuated rear end (DCCEEW, 2022h). Other distinguishing features include short legs and a short, straight, or slightly decurved bill with a slight bulbous or finely pointed tip (DCCEEW, 2022h).	Similar to the Sharp-tailed Sandpiper, Red-necked Stint has multiple records along the Murrumbidgee River, and Tumut River (intersect the project footprint) (Figure 13-15). Upon review of the species records, multiple records

Species	Migratory listings	Description	Summary of specific Impacts
	JAMBA and ROKAMBA	It is distributed along most of the Australian coastline with large densities on the Victorian and Tasmanian coasts (DCCEEW, 2022h). The Red-necked Stint has been recorded in all coastal regions and found inland in all states when conditions are suitable (DCCEEW, 2022h). The Red-necked Stint probably travels in flocks and has been observed to feed in dense flocks. The Australian population was estimated at 353 000 (DCCEEW, 2022h). The Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores (DCCEEW, 2022h). They also occur in saltworks and sewage farms; saltmarsh; ephemeral or permanent shallow wetlands near the coast or inland, including lagoons, lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in saltflats (DCCEEW, 2022h). The Red-necked Stint mostly forages on bare wet mud on intertidal mudflats or sandflats, or in very shallow water; mostly in areas with a film of surface water and mostly close to edge of water (DCCEEW, 2022h). During high tides they sometimes forage in non-tidal wetlands (DCCEEW, 2022h). They have been recorded foraging in flooded paddocks and in a freshly cropped lucerne paddock near lagoons (DCCEEW, 2022h). The Red-necked Stint roosts on sheltered beaches, spits, banks or islets, of sand, mud, coral or shingle, sometimes in saltmarsh or other vegetation (DCCEEW, 2022h). Large numbers (an estimated 7967 birds) were recorded roosting at an inland claypan near Roebuck Bay in north-west Western Australia (DCCEEW, 2022h).	are found at Lake Albert, and along the Murrumbidgee River in Wagga Wagga, NSW. Based on review of literature and species records, the Red-necked Stint is at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). The project has the potential to indirectly impact 54.98 ha of riparian habitat within the Inland Slopes portion of the project footprint and increase the potential for collision or entanglement. Considering the above factors, the project has the potential to significantly impact the species.
Rufous Fantail **(*Rhipidura rufifrons*)**	Migratory under the EPBC Act, and Bonn Migratory Agreement	Rufous Fantail adults are medium sized birds, generally ranging from 14.5–18.5 cm in length with a wingspan between 18–22.5 cm and a weight of approximately 10 g. (DoE, 2022e). The male and female of the species look identical; however, females are generally smaller than the males (DoE, 2022e). The Rufous Fantail has a rich reddish-brown black forehead, a white arc under the eyes, black ear-coverts, a white throat, and black bar across the upper breast (DoE, 2022e). The top of the head, back of the neck and the upper back, transition from an olive to reddish-brown colour, which then blends into a blackish brown, long, fan-shaped tail. which is tipped with a paler colour, often white (DoE, 2022e). The lower breast is off-white with black scale-like spots which transitions into an off-white colour towards the centre of	The species is known to occupy a range of habitats found within the project footprint. Therefore, the project has the potential to remove approximately 85.09 ha of opportunistic non-breeding habitat. Based on the transient nature of the species, no nearby records, and the implementation of appropriate mitigation measures a significant impact is unlikely.

Species	Migratory listings	Description	Summary of specific Impacts
		the abdomen (DoE, 2022e). The eyes, bill and feet of the bird are all a brown colour (DoE, 2022e). The Rufous Fantail occurs in coastal and near coastal districts of northern and eastern Australia (DoE, 2022e). Breeding populations occur from about the South Australia-Victoria border, through south and central Victoria, on and east of the Great Divide in New South Wales (NSW), and north to about the Cairns-Atherton region, Queensland (DoE, 2022e). This species winters farther north from Cape York Peninsula in Queensland to Torres Strait and southern Papua New Guinea (DoE, 2022e). Some populations of the Rufous Fantail in east Australia are migratory (DoE, 2022e). They breed in south-east Australia between September and February; however, their movement patterns are not fully understood (DoE, 2022e). In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts, usually with a dense shrubby understorey often including ferns (DoE, 2022e). They also occur in subtropical and temperate rainforests, and occasionally occur in secondary regrowth, following logging or disturbance in forests or rainforests (DoE, 2022e). When on passage, they are sometimes recorded in drier sclerophyll forests and woodlands, parks, and gardens (DoE, 2022e).	
Satin Flycatcher **(*Myiagra cyanoleuca*)**	Migratory under the EPBC Act, Bonn Migratory Agreement	The Satin Flycatcher are around 17.5 cm long, with a wingspan of 23 cm and a weight of 17 g (DoE, 2022d). The species is characterised by an upright posture, short erectile crest, and a distinctive habit of quivering the tail when perched (DoE, 2022d). Males are glossy blue-black above, with a blue-black chest and white below, while females are duskier blue-black above, with an orange-red chin, throat and breast, and white underparts and pale-edged wing and tail feathers (DoE, 2022d). The Satin Flycatcher is widespread in eastern Australia and vagrant to New Zealand (DoE, 2022d). In NSW, they are widespread on and east of the Great Divide and sparsely scattered on the western slopes, with very occasional records on the western plains (DoE, 2022d). Satin Flycatchers are migratory, moving north in autumn to spend winter in northern Australia and New Guinea (DoE, 2022d). They return south in spring to breed and spend summer in south-eastern Australia (DoE, 2022d).	The species has not been recorded within proximity of the project footprint (within 20 km). Satin Flycatcher is known to occur in heavily vegetated gullies in eucalypt-dominated forests and taller woodlands. Therefore, the project has the potential to remove approximately 595.03 ha of potential foraging habitat for this species. Based on the transient nature of the species, no nearby records, and the implementation of appropriate mitigation measures a significant impact is unlikely.

Species	Migratory listings	Description	Summary of specific Impacts
		Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests (DoE, 2022d). Satin Flycatchers mainly inhabit eucalypt forests, often near wetlands or watercourses (DoE, 2022d). They generally occur in moister, taller forests than the Leaden Flycatcher (*Myiagra rebecula*), often occurring in gullies (DoE, 2022d). They also occur in eucalypt woodlands with open understorey and grass ground cover and are generally absent from rainforest (DoE, 2022d). In south-eastern Australia, they occur at elevations of up to 1,400 m above sea level (DoE, 2022d).	
Sharp-tailed Sandpiper (*Calidris acuminata*)	Migratory under the following EPBC Act migratory agreements: Bonn, CAMBA, JAMBA and ROKAMBA	The Sharp-tailed Sandpiper is a small-medium wader. The bird has a length of 17–22 cm, a wingspan of 36–43 cm and a weight of 65 g (DCCEEW, 2022g). It is a portly sandpiper with a flat back, pot belly and somewhat drawn-out rear end (DCCEEW, 2022g). It has a small flat head on a short neck with a short and slightly decurved bill (DCCEEW, 2022g). The species has medium length legs (DCCEEW, 2022g). At rest, the primaries are level with or slightly short of the tip of the tail (DCCEEW ,2022g). The primary projection is short in adults and moderately long in juveniles (DCCEEW, 2022g). The sexes are similar and there is marked seasonal variation (DCCEEW, 2022g). The Sharp-tailed Sandpiper spends the non-breeding season in Australia with small numbers occurring regularly in New Zealand (DCCEEW, 2022g). Most of the population migrates to Australia, mostly to the south-east and are widespread in both inland and coastal locations and in both freshwater and saline habitats (DCCEEW, 2022g). Many inland records are of birds on passage (DCCEEW, 2022g). They are widespread in most regions of New South Wales, especially in coastal areas, but they are sparse in the south-central Western Plain and east Lower Western Regions (DCCEEW, 2022g). The Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation (DCCEEW, 2022g). This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland (DCCEEW, 2022g). They forage at the edge of the water of wetlands or intertidal mudflats, either on bare wet mud or sand, or in shallow water, as well as among inundated vegetation of saltmarsh, grass or sedges, and in sewage ponds, and hypersaline environments (DCCEEW, 2022g). After rain,	There are multiple Sharp-tailed Sandpiper records along the Murrumbidgee River, and Tumut River (intersecting the project footprint) (Figure 13-15). Although the sites are not formally part of the *East Asian-Australasian Flyway* (the Flyway), the waterbodies are known as inland corridors for many migratory waterbirds. Upon review of the distribution of species records (BioNet, 2023), multiple records were found at Lake Albert, and along the Murrumbidgee River in Wagga Wagga, NSW. It is well documented that transmission lines, especially close to wetlands, forests or over floodplains, are a significant cause of mortality for many waterbird species (Baker et al., 1998; Clancy, 2010; Loss et al., 2014). Generally, it is those groups of birds which are likely to fly at heights where transmission lines are located, and are not familiar with local habitat attributes, which have the most potential to encounter transmission line infrastructure. Based on review of literature and species records, Sharp-tailed Sandpiper is at

Species	Migratory listings	Description	Summary of specific Impacts
		they may forage in paddocks of short grass, well away from water (DCCEEW, 2022g). Roosting occurs at the edges of wetlands, on wet open mud or sand, in shallow water, or in short sparse vegetation, such as grass or saltmarsh (DCCEEW, 2022g). Occasionally, they roost on sandy beaches, stony shores or on rocks in water (DCCEEW, 2022g). They have also been recorded roosting in mangroves (DCCEEW, 2022g).	higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). The project has the potential to indirectly impact 54.98 ha of riparian habitat within the Inland Slopes portion of the project footprint and increase the potential for collision or entanglement. Therefore, the project has the potential to significantly impact the species.
White-throated Needletail (*Hirundapus caudacutus*)	Vulnerable under the EPBC Act, Migratory under the following EPBC Act migratory agreements: CAMBA, JAMBA and ROKAMBA	The White-throated Needletail is a large swift with a thickset, cigar-shaped body, stubby tail and long pointed wings (TSSC, 2019d). They have a dark-olive head and neck, with an iridescent gloss on the crown, a narrow, white band across the forehead and lores and a white patch on the chin and throat (TSSC, 2019d). The upper wings are blackish, sometimes with a greenish gloss, and the upper tail is black with a greenish gloss (TSSC, 2019d). The underparts are generally dark-olive except for a U-shaped band across the rear flanks, the vent and the undertail coverts (TSSC, 2019d). The bill is black, the eyes black-brown and the legs and feet are dark grey, sometimes with a pinkish tinge (TSSC, 2019d). The White-throated Needletail is widespread in eastern and south-eastern Australia (TSSC, 2019d). In eastern Australia, the species is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Dividing Range and occasionally onto the adjacent inland plains (TSSC, 2019d). Further south on the mainland, it is widespread in Victoria, though more so on and south of the Great Dividing Range, and there are few records in western Victoria (TSSC, 2019d). The species occurs in adjacent areas of south-eastern South Australia, where it extends west to the Yorke Peninsula and the Mount Lofty Ranges. It is widespread in Tasmania (TSSC, 2019d). The breeding distribution of the White-throated Needletail is restricted to Asia (TSSC, 2019d). In Australia, the White-throated Needletail is mostly aerial, from heights of less than 1 m up to more than 1,000 m above the ground (TSSC, 2019d). Although they occur over most types of habitats, they are recorded most often above wooded areas, including open forest and	The species is known to occupy the airspace above most vegetation formations, and habitats found within the project footprint (aerial forager). The project has the potential to remove approximately 85.09 ha (5%) of opportunistic/potential foraging habitat. However, the species is highly mobile, and is almost always aerial in Australia, at heights up to 'cloud level', above a wide variety of habitats and disturbed areas (DCCEEW, 2022an). They use updrafts, low pressure systems to glean aerial insects, and are less reliant on terrestrial vegetation communities as a habitat resource. Therefore, a significant impact is unlikely.

Species	Migratory listings	Description	Summary of specific Impacts
		rainforest. They may also fly below the canopy between trees, in clearings, over sandy beaches or mudflats, and often around coastal cliffs and other areas with prominent updraughts, such as ridges and sand-dunes (TSSC, 2019d).	

Relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for these species is as follows:

Recovery plans or conservation advice:

- There is no approved conservation advice or adopted Recovery Plan for nine of the 10 species including the Fork-tailed Swift, Sharp-tailed Sandpiper, Red-necked Stint, Latham's Snipe, Black-faced Monarch, Satin Flycatcher, Rufous Fantail, Common Greenshank, or Marsh Sandpiper.
- There is no adopted Recovery Plan for White-throated Needletail, however, the approved conservation advice for the White-throated Needletail (TSSC, 2019d), provides sufficient direction to implement priority actions, mitigate against key threats and enable recovery. The primary actions include: Work with governments in East Asia to minimise destruction of key breeding habitats.
- Important habitats in Australia are identified and protected.

Threat abatement plans:

- No Threat Abatement Plans apply to the Sharp-tailed Sandpiper, Red-necked Stint, White-throated Needletail, Satin Flycatcher, Rufous Fantail, Common Greenshank or Marsh Sandpiper.
- The *Threat abatement plan for predation by feral cats* (DAWE 2015), has been identified as being relevant for the Fork-tailed Swift and the Black-faced Monarch.
- The *Threat abatement plan for predation by the European red fox* (DAWE 2008), has been identified as being relevant for the Latham's Snipe.

Guidelines:

- The following guidelines are relevant to these species
  - Draft referral guideline for 14 birds listed as migratory species under the EPBC Act (DoE 2015).
  - National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (DEE 2020).

Specific impacts

Migratory birds may potentially be impacted by the installation of new transmission lines in their flightpath (Section 12.5.4 of the BDAR, and Attachment 21). Potential direct impacts include vegetation clearing for the installation of transmission lines and associated infrastructure within riparian and mesic habitats, which may reduce the availability of nesting and foraging resources for these species, as well as suitable hollow bearing trees used as roosting habitat by the White-throated Needletail. Specific impacts for each species are described above in Table A18- 40.

Potential indirect impacts include species injury or mortality, resulting from collision, entanglement, or electrocution from new transmission lines. Migratory waterbird species are likely to be more susceptible to this type of impact as they may be less familiar with the landscape than resident fauna species, who will likely habituate to the structures over time. The risk of collision, entanglement, or electrocution is likely to be higher where the project footprint is within 1 kilometre of a major waterbody or wetland (eg, Murrumbidgee River, Tumut River, Tarlo River, and Wollondilly River).

Significant impact criteria

All 10 species discussed in this section are assessed against the significant impact criteria for Migratory species. In addition, the White-throated Needletail is assessed against the significant impact criteria for Vulnerable species.

Significant impact criteria for Migratory species:
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species

Fork-tailed Swift, Satin Flycatcher and Rufous Fantail were detected during field surveys of the project footprint (known habitat). Known habitat for the Satin Flycatcher and Rufous Fantail is present in the project footprint, however no nests were observed during surveys. Given the transient nature of these species, and the availability of habitat in the broader surrounds, the habitat present within the project footprint is not considered to be important habitat for any of these species. Therefore, the project has the potential to direct impact approximately 727.40 ha of non-breeding habitat.

Migratory waterbirds (eg, Common Greenshank, Sharp-tailed Sandpiper, Red-necked Stint, Latham's Snipe, Marsh Sandpiper), are at higher risk of indirect impacts (e.g., collision) in areas where wetlands and major waterbodies intersect or are within 1 kilometres of the project footprint (Figure 13-15). Based on the indicative disturbance area, the project has the potential to also impact 54.98 ha of riparian habitat indirectly within the Bondo and Inland Slopes portion of the project footprint. The impact assessment has focused on the Inland Slopes and Bondo IBRA subregions exclusively, based on the distribution of migratory species records (primarily occurring along the Ginini Flats Wetland Complex Ramsar Site and the Murrumbidgee River, near Wagga Wagga and Lake Albert), and the outcome of the connectivity and collision risk assessment, which identified moderate and high-risk areas within the project footprint (Attachment 22). The Sharp-tailed Sandpiper, Red-necked Stint, Latham's Snipe, Black-faced Monarch, Common Greenshank and Marsh Sandpiper were not recorded within the project footprint during surveys however, they have been recorded in the broader area, along the Murrumbidgee River, Lake Albert, Ginini Flats Wetland Complex Ramsar Site, and towards Wagga Wagga (Inland Slopes and Bondo IBRA subregions). They may occasionally utilise the riparian habitats within the project footprint for foraging, or as passage to inland wetland habitats (non-breeding habitats). The potential habitat present within the project footprint is not considered to be important habitat for any of these species.

The Fork-tailed Swift and White-throated Needletail are aerial foragers and may be at risk of collision with transmission line s while foraging. However, there is insufficient data available to determine the risk of transmission line collisions for Fork-tailed Swift. The SPRAT profile for the White-throated Needletail indicates that the species experiences a constant threat of collision with overhead wires when in Australia, however this affects only a few individuals and is not a threat to the species overall (DCCEEW 2022l). Given the existing threat of collision with overhead wires, it is unlikely that the installation of transmission line s in the project footprint would increase this threat to the extent that there would be a substantial impact to the species overall.

Extensive areas of similar habitat for these species are also present within the locality and would not be impacted by the project. The habitat within the project footprint to be impacted is therefore not considered important habitat for these species. As such, the removal of approximately 85.09 ha of native

vegetation as a result of the project is unlikely to substantially modify, destroy or isolate an area of important habitat for a migratory species.

Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or

The project is not likely to result in the introduction of invasive species to an area of important habitat for these migratory species.

Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

The Fork-tailed Swift, Sharp-tailed Sandpiper, Red-necked Stint, Latham's Snipe, White-throated Needletail, Common Greenshank and Marsh Sandpiper do not breed in Australia and therefore no breeding habitat for these species is present in the project footprint. While these species may occasionally utilise the project footprint for foraging, this is not considered to form important non-breeding habitats for these species within the project footprint (not formally part of East Asian-Australasian Flyway). However, the proposed transmission line infrastructure has the potential to increase collision and entanglement risks to migratory species travelling to inland feeding grounds (eg, Lake Albert, and Fivebough and Tuckerbil Swamps Ramsar Site). These species are more susceptible to this type of impact as they may be less familiar with the landscape than resident fauna species, who will likely habituate to the structures over time. The risk of collision, or entanglement is likely to have flow-on effects to the lifecycle and breeding success of these species. Therefore, indirect impacts to this habitat as a result of the project have the potential to seriously disrupt the lifecycle of an ecologically significant proportion of any population of these species.

The Black-faced Monarch breeds in rainforest habitat and nests near the top of trees and small saplings or in lower shrubs. There is no confirmed breeding habitat within the project footprint (no signs of nests). However, there are portions of the project footprint that haven’t been surveyed due to limited site access. While there is potential habitat for the species within the project footprint, given the extent of habitat in the broader surrounds, and transient nature of the species, the habitat to be impacted by the project is not considered to be important to the lifecycle of the Black-faced Monarch.

While there was potential breeding habitat suitable for the Satin Flycatcher and Rufous Fantail present in the project footprint, no nests observed during surveys. Potential habitat for the species within the project footprint is not considered to be important to the lifecycle of the species. In addition, similar areas of potential breeding and foraging habitat for these species would be retained in the project footprint (through the implementation of various mitigation measures as outlined in Chapter 14 of the BDAR), and the wider locality. Therefore, the removal of the potential habitat as a result of the project is unlikely to disrupt the lifecycle of an ecologically significant proportion of these species.

Conclusion

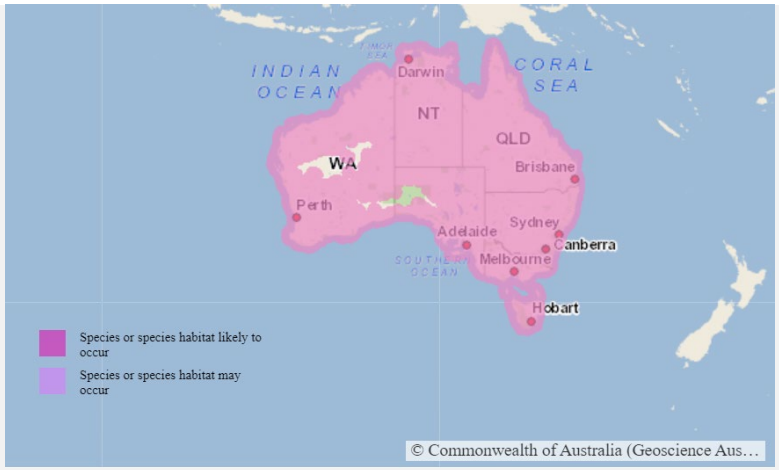
In light of the above, the proposed project is unlikely to result in a significant impact to the White-throated Needletail, Black-faced Monarch Satin Flycatcher or Rufous Fantail.

For species, such as Fork-tailed Swift, Sharped-tailed Sandpiper, Red-necked Stint, Latham’s Snipe, Marsh Sandpiper, and Common Greenshank, there is inadequate data to determine the risk of transmission line collision. Transmission lines are known to cause mortalities of migrating birds as they are flying through unfamiliar habitat, sometimes in conditions of poor visibility or at night (DoE 2015). Further, there are

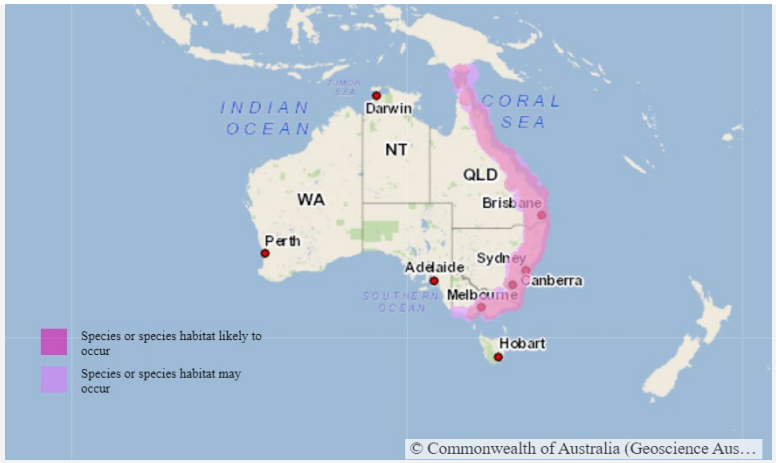
multiple records of these species, distributed around wetland habitats and waterways, that intersect or are adjacent to the project footprint. The proposed transmission line would intersect the typical flightpath of these species, and thus, increases collision and entanglement risks to migratory species travelling to inland feeding grounds (eg, Lake Albert, and Fivebough and Tuckerbil Swamps Ramsar Site). Therefore, the project may significantly impact Fork-tailed Swift, Sharped-tailed Sandpiper, Red-necked Stint, Latham's Snipe, Marsh Sandpiper, and Common Greenshank, without appropriate consideration of migratory patterns and mitigation options.

A summary of the NSW assessment bilateral requirements for migratory bird species is presented in Table A18- 41.

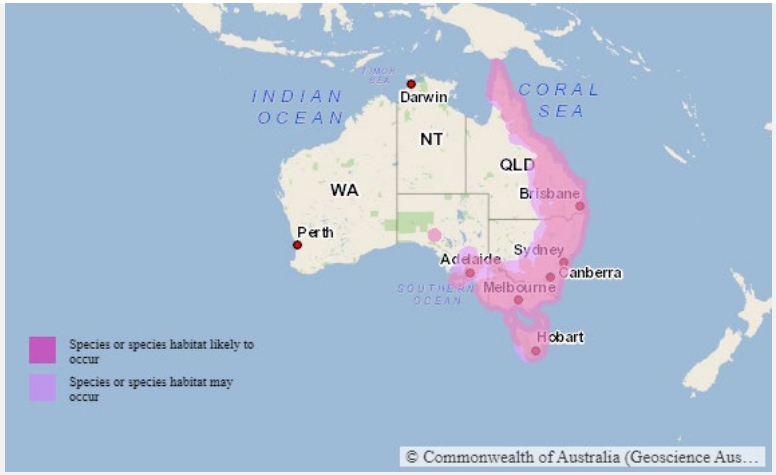
Table A18- 41: NSW assessment bilateral requirements for migratory birds

Common Name	NSW Assessment Bilateral requirements	Response
Fork-tailed Swift	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Fork-tailed Swift (DECCW, 2015) There is no adopted recovery plan, nor conservation advice for this species. However, the *Threat abatement plan for predation by feral cats* (DAWE 2015), has been identified as being relevant for the Fork-tailed Swift. Description of habitat is detailed in Table 1.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	The species is known to occupy the airspace above most vegetation formations, and habitats found within the project footprint (records within Bondo and Inland Slopes portion of the project footprint). Fork-tailed Swift is a non-breeding visitor to all states and territories of Australia (DCCEEW 2022f). In NSW, the Fork-tailed Swift is recorded in all regions (DCCEEW 2022f). Many records occur east of the Great Divide; however, a few populations have been found west of the Great Divide (DCCEEW 2022f). The project would remove 727.40 ha of potential (non-breeding) habitat. The area of occupancy for

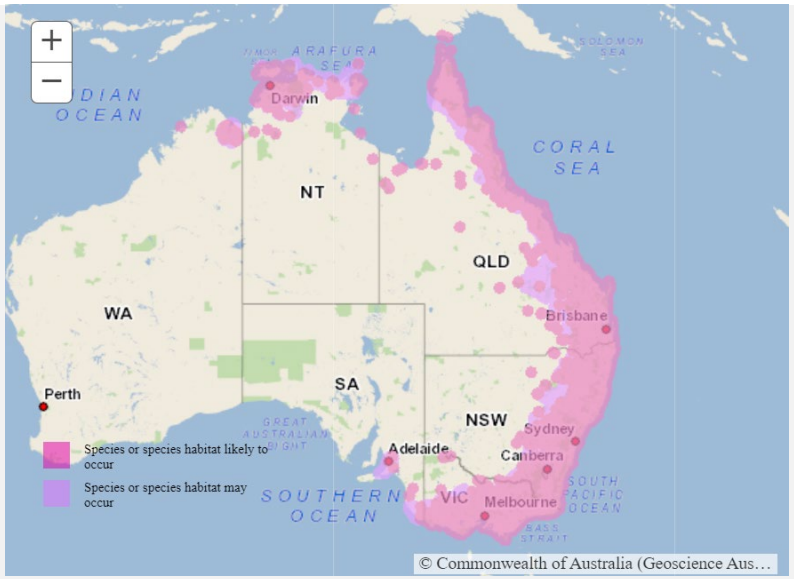
Common Name	NSW Assessment Bilateral requirements	Response
		Fork-tailed Swift cannot be defined given lack of knowledge on the species. Therefore, the extent of impact on habitat is unknown on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Fork-tailed Swift: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible. • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Fork-tailed Swift is 727.40 ha of habitat removal. There is the potential for indirect impacts (such as reduced habitat connectivity, and increased risk of collision with transmission lines) within or adjacent to the project footprint.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Fork-tailed Swift are considered to have the potential to be significant as detailed above. The Fork-tailed Swift is currently not listed under the BC Act and has no associated PCTs identified in BioNet. It is not identified as an ecosystem or species credit species. However, residual impacts to the species habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets will be established/satisfied as detailed below. Details of offset requirements and obligations for the Fork-tailed Swift as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.

Common Name	NSW Assessment Bilateral requirements	Response
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations will be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. In line with the SIA, there is likely to be significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is required.
Black-faced Monarch	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Black-faced Monarch (DoE, 2023) There is no adopted recovery plan, nor conservation advice for this species. However, the *Threat abatement plan for predation by feral cats* (DAWE 2015), has been identified as being relevant for the Black-faced Monarch.

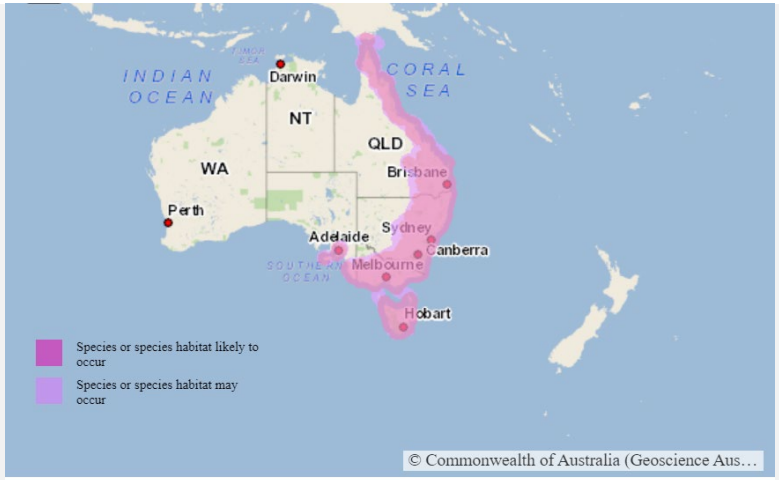
Common Name	NSW Assessment Bilateral requirements	Response
		Wet forest specialist, found mainly in rainforest and wet sclerophyll forest, especially in sheltered gullies and slopes with a dense understorey of ferns and/or shrubs.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	The project has the potential to remove approximately 131.13 ha of potential habitat. There are no records of the species in proximity to the project footprint, however, the species is known to primarily occupy wet sclerophyll vegetation formations. The area of occupancy of the Black-faced Monarch is estimated at 260,000 ha and the national distribution of this species extends from Victoria, along the south-east coast of NSW, through to the southeast coast of Queensland (see distribution map above). The project will impact 0.05% of Black-faced Monarch habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Black-faced Monarch: • Micro-siting of transmission line infrastructure and associated construction work to avoid and minimise the clearing of associated vegetation communities, where practicable • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Black-faced Monarch is 131.13 ha of habitat removal. There is the potential for indirect impacts (such as reduced habitat connectivity) within or adjacent to the project footprint. As detailed in the SIA above, residual impacts to the species were considered unlikely to be significant.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Black-faced Monarch are considered unlikely to be significant as detailed in the SIA. As such offsets are not proposed.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.

Common Name	NSW Assessment Bilateral requirements	Response
		The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project/ Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. There are no significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.
Satin Flycatcher	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Satin Flycatcher (DoE, 2020) There is no adopted recovery plan, nor conservation advice for this species.

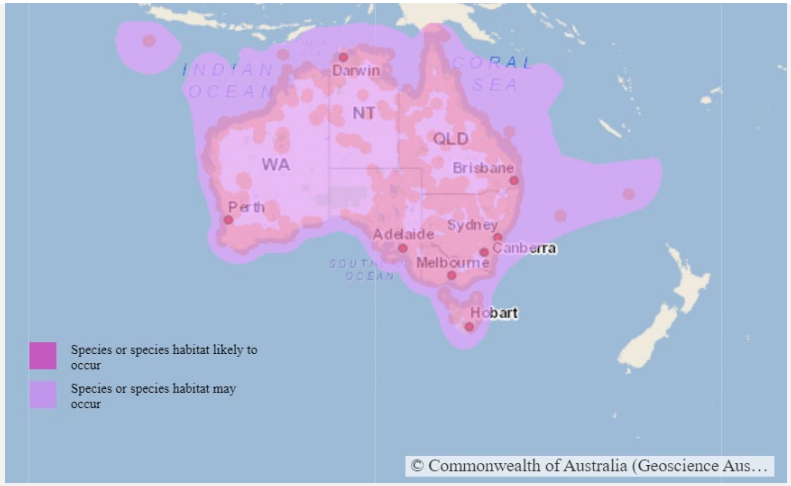
Common Name	NSW Assessment Bilateral requirements	Response
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	The species has not been recorded within proximity of the project footprint (within 20 km). Satin Flycatcher is known to occur in heavily vegetated gullies in eucalypt-dominated forests and taller woodlands. The project has the potential to remove approximately 595.03 ha of potential foraging habitat for this species. The area of occupancy of the Satin Flycatcher is estimated at 440,000 ha and the national distribution of this species extends from Victoria, along the southeast coast of NSW, through to the south-east coast of Queensland (see distribution map above). The project will impact 0.1% of Satin Flycatcher habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Satin Flycatcher: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction work sites to avoid impacts to foraging resources, where possible. • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Satin Flycatcher is 595.03 ha of habitat removal. There is the potential for indirect impacts (such as reduced habitat connectivity) within or adjacent to the project footprint. As detailed in the SIA above, residual impacts to the species were considered unlikely to be significant.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Satin Flycatcher are considered unlikely to be significant as detailed above. As such offsets are not proposed.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.

Common Name	NSW Assessment Bilateral requirements	Response
	with the objects of the EPBC Act to offset significant residual adverse impacts	The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.
Rufous Fantail	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Rufous Fantail (DoE, 2023)

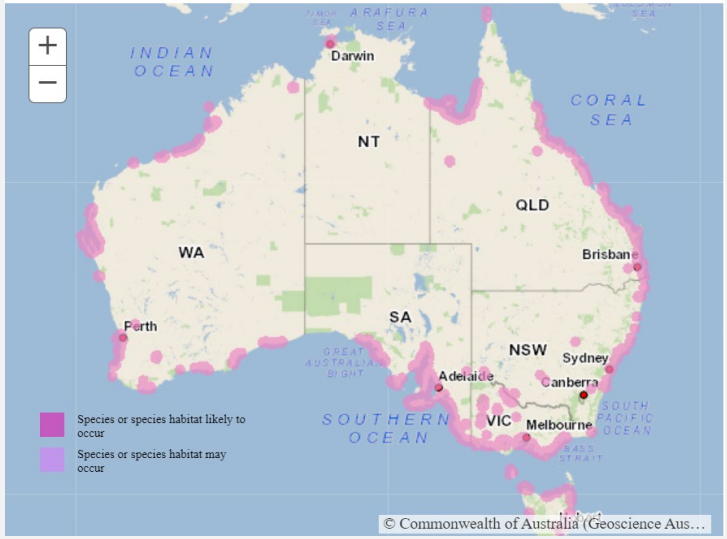
Common Name	NSW Assessment Bilateral requirements	Response
		There is no adopted recovery plan, nor conservation advice for this species. However, *Draft referral guideline for 14 birds listed as migratory species under the EPBC Act* (DoE 2015), provides guidance on the conservation of the species.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	The species is known to occupy a range of habitats found within the project footprint. Therefore, the project has the potential to remove approximately 722.67 ha of opportunistic non-breeding habitat. The area of occupancy of the Rufous Fantail is estimated at 750,000 ha and the national distribution of this species extends from Victoria, along the south-east coast of NSW, through to the southeast coast of Queensland (see distribution map above). The project would impact 0.9% of Rufous Fantail habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Rufous Fantail: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Rufous Fantail is 722.67 ha of habitat removal. There is the potential for indirect impacts (such as reduced habitat connectivity) within or adjacent to the project footprint. As detailed in the SIA above, residual impacts to the species were considered unlikely to be significant.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to Rufous Fantail are considered unlikely to be significant as detailed above. As such offsets are not proposed.

Common Name	NSW Assessment Bilateral requirements	Response
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.
White-throated Needletail	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	

Common Name	NSW Assessment Bilateral requirements	Response
		Current distribution map for White-throated Needletail (DoE, 2023) There is no adopted recovery plan, however the approved conservation advice (DoE 2019) for this species provides guidance on its conservation, and recovery.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	The species is known to occupy the airspace above most vegetation formations, and habitats found within the project footprint (aerial forager). The project has the potential to remove approximately 85.09 ha of opportunistic/potential foraging habitat. The area of occupancy for White-throated Needletail cannot be defined given lack of knowledge on the species. Therefore, the extent of impact on habitat is unknown on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to White-throated Needletail: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to White-throated Needletail is 85.09 ha of habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity) within or adjacent to the project footprint. As detailed in the SIA above, residual impacts to the species were considered unlikely to be significant.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to White-throated Needletail are considered unlikely to be significant as detailed above. As such offsets are not proposed.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act

Common Name	NSW Assessment Bilateral requirements	Response
	with the objects of the EPBC Act to offset significant residual adverse impacts	Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All adverse impacts to the species habitat have been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is not required.
Sharp-tailed Sandpiper	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Sharp-tailed Sandpiper (DoE, 2023) There is no adopted recovery plan, nor approved conservation advice for this species.

Common Name	NSW Assessment Bilateral requirements	Response
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	The project has the potential to indirectly impact 54.98 ha of riparian habitat within the Inland Slopes portion of the project footprint and increase the potential for collision or entanglement. The area of occupancy for Sharp-tailed Sandpiper in Australia, primarily occurs in wetland habitats during annual migration. Given the migratory movements of this species, it is difficult to determine the extent of impact on habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Sharp-tailed Sandpiper: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Sharp-tailed Sandpiper is 54.98 ha of potential habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity, and increased risk of collision) within or adjacent to the project footprint.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Sharp-tailed Sandpiper are considered to have the potential to be significant as detailed above. The Sharp-tailed Sandpiper is currently not listed under the BC Act and has no associated PCTs identified in BioNet. It is not identified as an ecosystem or species credit species. However, residual impacts to the specie's habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Sharp-tailed Sandpiper as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act

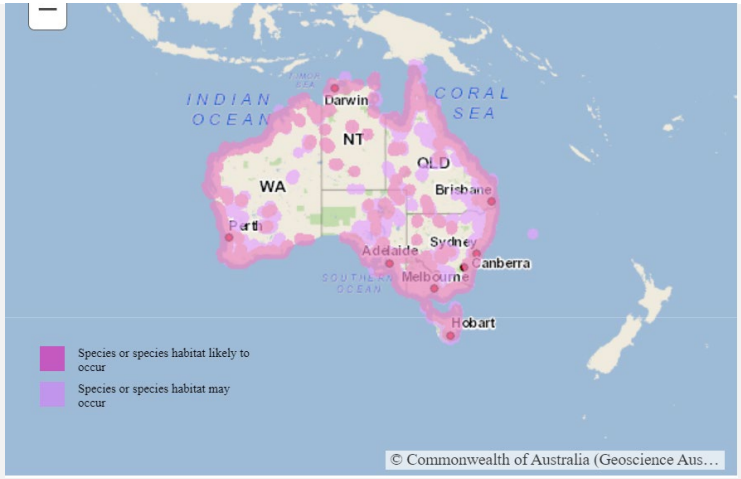
Common Name	NSW Assessment Bilateral requirements	Response
	with the objects of the EPBC Act to offset significant residual adverse impacts	Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. In line with the SIA, there is likely to be significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is required
Red-necked Stint	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	

Common Name	NSW Assessment Bilateral requirements	Response
		Current distribution map for Red-necked Stint (DoE, 2023) There is no adopted recovery plan, nor approved conservation advice for this species.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys used were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	Like the Sharp-tailed Sandpiper, Red-necked Stint has multiple records along the Murrumbidgee River, and Tumut River (intersect the project footprint) (Figure 13-15). Upon review of the species records, multiple records are found at Lake Albert, and along the Murrumbidgee River in Wagga Wagga, NSW. Based on review of literature and species records, the Red-necked Stint is at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). The project has the potential to indirectly impact 54.98 ha of riparian habitat within the Inland Slopes portion of the project footprint. The area of occupancy for Red-necked Stint in Australia, primarily occurs in wetland habitats during annual migration. Given the migratory movements of this species, it is difficult to determine the extent of impact on habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Red-necked Stint: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Red-necked Stint is 54.98 ha of potential habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity, and increased risk of collision) within or adjacent to the project footprint.

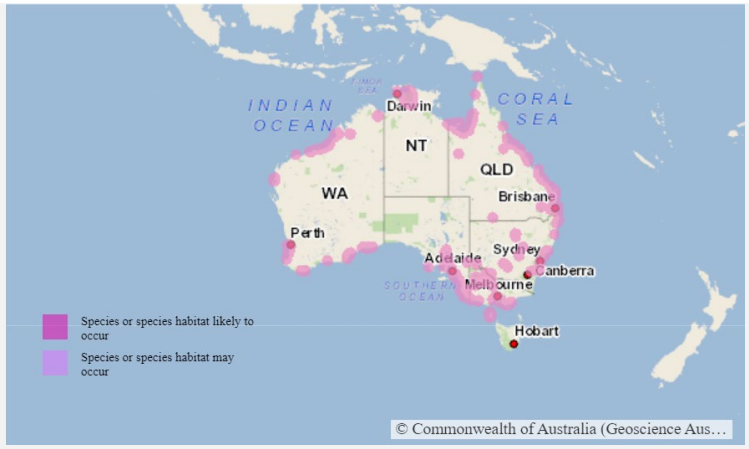
Common Name	NSW Assessment Bilateral requirements	Response
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Red-necked Stint are considered to have the potential to be significant as detailed above. The Red-necked Stint is currently not listed under the BC Act and has no associated PCTs identified in BioNet. It is not identified as an ecosystem or species credit species. However, residual impacts to the specie's habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Red-necked Stint as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. In line with the SIA, there is likely to be significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is required

Common Name	NSW Assessment Bilateral requirements	Response
Latham's Snipe	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Latham's Snipe (DoE, 2023) There is no adopted recovery plan, nor approved conservation advice for this species.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality riparian habitat within the project footprint. Detailed methods can be found in section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	There are a couple of Latham's Snipe records along the Murrumbidgee River (intersecting the project footprint) (Figure 13-15). Records were also present around Lake Albert, and along the Murrumbidgee River in Wagga Wagga, NSW. Based on review of literature and species records, Latham's Snipe are at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). The proposed transmission line has the potential to indirectly impact aerial connectivity, and 54.98 ha of riparian habitat within the project footprint. The area of occupancy for Latham's Snipe in Australia, primarily occurs in wetland habitats during annual migration. Given the

Common Name	NSW Assessment Bilateral requirements	Response
		migratory movements of this species, it is difficult to determine the extent of impact on habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Latham's Snipe: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Latham's Snipe is 54.98 ha of potential habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity, and increased risk of collision) within or adjacent to the project footprint.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Latham's Snipe are considered to have the potential to be significant as detailed above. The Latham's Snipe is currently not listed under the BC Act and has no associated PCTs identified in BioNet. It is not identified as an ecosystem or species credit species. However, residual impacts to the species habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Latham's Snipe as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations will be met through implementing a combination of the following offset delivery options:

Common Name	NSW Assessment Bilateral requirements	Response
	and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	• The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. Any significant residual impacts not addressed by the BAM would be addressed in accordance with the EPBC Act Environmental Offset Policy.
Common Green Shank	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Common Greenshank (DoE, 2023) There is no adopted recovery plan, nor approved conservation advice for this species.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements	The field surveys undertaken were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC 2010). These included diurnal bird surveys in pockets of good quality riparian habitat within the project footprint. Detailed methods can be found in Section 4.6 of the BDAR.

Common Name	NSW Assessment Bilateral requirements	Response
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	Based on the ecology (highly transient) of Common Greenshank, the species is at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). The proposed transmission line corridor has the potential to also impact 54.98 ha of riparian habitat indirectly within the Inland Slopes portion project footprint. The area of occupancy for Common Greenshank in Australia, primarily occurs in wetland habitats during annual migration. Given the migratory movements of this species, it is difficult to determine the extent of impact on habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Common Greenshank: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible • Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Common Greenshank is 54.98 ha of potential habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity, and increased risk of collision) within or adjacent to the project footprint.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Common Greenshank are considered to have the potential to be significant as detailed above. The Common Greenshank is currently not listed under the BC Act and has no associated PCTs identified in BioNet. It is not identified as an ecosystem or species credit species. However, residual impacts to the species habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Common Greenshank as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements.

Common Name	NSW Assessment Bilateral requirements	Response
		The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. All significant adverse impacts to the species have been addressed under the NSW BOS. In line with the SIA, there is likely to be significant residual impacts to the species that have not been addressed under the NSW BOS. Therefore, application of the EPBC Act Environmental Offsets Policy is required
Marsh Sandpiper	Description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations, and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan	 Current distribution map for Marsh Sandpiper (DoE, 2023) There is no adopted recovery plan, nor approved conservation advice for this species.
	Details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or	The field surveys used were in accordance with the Survey guidelines for Australia's threatened birds, EPBC Act survey guidelines (DSEWPaC, 2010). These included diurnal bird surveys in pockets of good

Common Name	NSW Assessment Bilateral requirements	Response
	justification for divergence from) published Australian Government guidelines and policy statements	quality riparian habitat within the project footprint. Detailed methods can be found in section 4.6 of the BDAR.
	Description of the relevant impacts and its regard to the full national extent of the species or community's range	Based on the ecology (highly transient) of Marsh Sandpiper, the species is at higher risk of collision in areas where wetlands and major waterbodies intersect or are within 1 km of the project footprint (Attachment 21, Figure 13-15). The proposed transmission line has the potential to also impact 54.98 ha of riparian habitat indirectly within the Inland Slopes portion of the project footprint. The area of occupancy for Marsh Sandpiper in Australia, primarily occurs in wetland habitats during annual migration. Given the migratory movements of this species, it is difficult to determine the extent of impact on habitat on a national scale.
	Description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action	Proposed avoidance and mitigation measures for the project are outlined in Chapter 12 and 14 of the BDAR. The following measures are included to mitigate any residual impacts to Marsh Sandpiper: • Investigation into appropriate deterrent devices is recommended in areas of the project footprint considered high-risk of collision, electrocution, or entanglement • Micro-siting of transmission line infrastructure and associated construction working areas to avoid impacts to foraging resources, where possible Review species wildlife rehabilitation records, and BioNet records in the locality to understand flightpaths, and areas that are of higher risk to avifauna-strike • Development of a connectivity strategy.
	Identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account	The residual impact to Marsh Sandpiper is 54.98 ha of potential habitat removal. There is the potential for indirect impacts (such as reduce habitat connectivity, and increased risk of collision) within or adjacent to the project footprint.
	A description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established	Potential residual impacts to the Marsh Sandpiper are considered to have the potential to be significant as detailed above. The Marsh Sandpiper is currently not listed under the BC Act and has no associated PCTs identified in BioNet. It is not identified as an ecosystem or species credit species. However, residual impacts to the specie's habitat would be offset under the NSW BOS through calculation of offsets required due to impacts to vegetation types with which it is associated (ecosystem credits). Offsets would be established/satisfied as detailed below. Details of offset requirements and obligations for the Marsh Sandpiper as a result of residual impacts of the project are addressed in Chapter 15 of the BDAR.
	Details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance	All significant residual impacts would be addressed through the provision of biodiversity offsets under the NSW BOS. Offsets delivered under the NSW BOS address the requirements of the EPBC Act

Common Name	NSW Assessment Bilateral requirements	Response
	with the objects of the EPBC Act to offset significant residual adverse impacts	Environmental Offset Policy through like for like offset trading requirements and the provisions for the establishment and securing into perpetuity of Biodiversity Stewardship Agreements. The BDAR specifically addresses Section 11 of the BAM and provides information on the application of the no net loss standard and the project biodiversity offset obligations. Credit calculations were quantified using the BAM-C Version 57.
	Details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the bam and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. The offset obligations would be met through implementing a combination of the following offset delivery options: • The purchase and retirement of existing biodiversity credits currently available on the biodiversity credit register. • Establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project • Payment into the Biodiversity Conservation Fund.
	Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the EPBC Act Environmental Offset Policy.	Chapter 16 of the BDAR outlines the biodiversity offset strategy for the project. Any significant residual impacts not addressed by the BAM will be addressed in accordance with the EPBC Act Environmental Offset Policy.

Attachment 19. Aquatic assessment of significance

Six FM Act listed threatened aquatic species and one FM Act listed Endangered Ecological Community (EEC) have been identified as having the potential to occur within the project footprint based upon an assessment of habitats available and review of desktop information sources (Section 10.2.1). Assessments of Significance under the FM Act have been completed for the following threatened biota listed under the FM Act:

- Lowland Murray River EEC (*Aquatic Ecological Community In The Natural Drainage System Of The Lower Murray River Catchment)*
- Murray Crayfish *(Euastacus armatus)*
- Small-bodied Fish
    - Southern Pygmy Perch *(Nannoperca australis)*
    - Flatheaded Galaxias *(Galaxias rostratus)*
- Large-bodied Fish
    - Trout Cod (*Maccullochella macquariensis*)
    - Silver Perch (*Bidyanus bidyanus*)
    - Macquarie Perch *(Macquaria australasica).*

The proposed construction methodology for the transmission line structures themselves avoids direct impacts to streams and waterways, as discussed in Chapter 13.7. Importantly, this includes the major waterways and majority of streams included in Key Fish Habitat (KFH) mapping within the project footprint. The maximum aquatic impact likely to occur at any of waterways relevant to the proposed transmission line would be the removal or trimming of tree canopy on waterway banks to facilitate the construction and operation of the transmission lines spanning riparian areas, as necessary. Tree trunk bases and understory species would be retained in-situ adjoining the waterway banks. All potential erosion and sedimentation impacts would be managed and monitored to ensure that these do not impact the riparian areas (described in Chapter 14). At most, any unintended impact to water quality would be temporary and negligible. The result being that riparian areas would retain their current function.

Construction of waterway crossings to support access for the project has been identified as the primary pathway of potential impact to aquatic habitats as this would result in the direct disturbance to aquatic ecosystems. A total of 280 streams were identified as occurring within the project footprint and intersecting with indicative access track locations that cross waterways. Of these, 194 are first order and 60 are second order streams, combining to total 91 per cent of streams intersecting indicative access track locations, reflecting the dominance of smaller streams within the project footprint. The majority of these streams appear to be in poor condition as a result of land clearing, online dam construction, clearing, grazing and cropping and cropping, as well as existing informal access track and waterway crossing construction. The existing impacts have resulted in deleterious processes such as bank erosion and channel incision and contribute to an overall picture of degraded aquatic habitats within the project footprint. Detailed consideration of access track locations that intersect with mapped KFH or indicative distribution mapping for threatened aquatic species (DPI 2022a), have been made in Chapter 10.

Avoiding and minimizing impacts on aquatic habitats would be a priority of the detailed design

(Chapter 12). Detailed mitigation measures to guide the design, construction and operational phase of these crossing locations have been made in Chapter 14 to control and reduce the potential for any residual indirect impacts to aquatic ecosystems.

Nevertheless, significance assessments for these six threatened aquatic species and one EEC have been completed following the threatened species assessment guidelines (DPI 2008) and are presented in the following sections.

Small-bodied fish

Flatheaded Galaxias (*Galaxias rostratus*): Critically Endangered species	Southern Pygmy Perch (*Nannoperca australis*): Endangered species
Distribution: The Flatheaded Galaxias is restricted to the southern Murray-Darling Basin (Lintermans 2007). Although the species once occurred in the middle reaches of the Lachlan, Murrumbidgee and Murray River catchments in New South Wales (Threatened Species Scientific Committee 2016), the last record in the Murrumbidgee River was in 1971 and the species may be locally extinct from Murrumbidgee and Lachlan rivers (Fisheries Scientific Committee 2008). Indicative distribution mapping for the species by NSW DPI includes Tarcutta Creek, the Tumut River, Umbango Creek and Kyeamba Creek in the Murrumbidgee catchment within the project footprint. **Habitats:** The species occurs in still and gently flowing small streams, lakes, lagoons, billabongs and backwaters with coarse sand or muddy substrate and aquatic vegetation (NSW DPI 2014). Key threats to the species are considered to be river regulation, habitat degradation including agriculture and the removal of aquatic and riparian vegetation, water pollution and competition with and predation by alien fish species (Threatened Species Scientific Committee 2016). All of these key threats are in operation within the project footprint at significant levels and as such potential habitats for the species would in general terms be considered marginal.	**Distribution:** The Southern Pygmy Perch was once widely distributed throughout the Lachlan, Murrumbidgee and Murray River system. In NSW, the species is now restricted to sections of three waterways In New South Wales, which include a tributary of the Lachlan River (Blakney Creek near Yass) and two tributaries of the Murray River, aside from five additional conservation stocking sites (NSW DPI 2013, Threatened Species Scientific Committee 2021). All of which are outside the project footprint and subcatchments. Lintermans (2007) notes that the Southern Pygmy Perch has now disappeared from most locations in NSW. Fourteen waterways within the project footprint have been identified as being within the indicative distribution of the species (NSW DPI 2022). Indicative waterway crossings are located at Yellow Creek (V8-13) and an unnamed stream (V8-12) have been included in indicative distribution mapping for the Southern Pygmy Perch (DPI 2022a), identified in Table 9 2 and Figure 9 1. Habitats within the relevant sections of Yellow Creek (V8-13) and unnamed stream (V8-12) are not considered to be important to the species based upon the levels of landscape modification. This is particularly so for unnamed stream (V8-12) which is a chain of farm dams rather than a waterway, with the indicative access track alignment avoiding these waterbodies. There are numerous existing crossings in proximity to both indicative crossing locations. It is anticipated that any constructed crossings upgrades associated with the project would contribute to overall improvements to aquatic conditions and be more sensitive than existing informal crossings and would not result in any additional deleterious processes. **Habitats:** The Southern Pygmy Perch prefers slow flowing or still waters in small streams, billabongs, vegetated lakes and irrigation channels with dense aquatic vegetation and habitat cover (Lintermans 2007). These habitats are generally absent within the

Flatheaded Galaxias (*Galaxias rostratus*): Critically Endangered species	Southern Pygmy Perch (*Nannoperca australis*): Endangered species
	project footprint, and where present in some form, they are typically limited and have been subject to impact or deleterious processes such as grazing and riparian clearing. Key threats to the species are habitat degradation, including the loss of aquatic and riparian vegetation. As such, potential habitats for the within the project footprint for the species would be marginal.

Potential impacts:

Overall, these species are considered unlikely to occur within the project footprint. This is given the known current distribution of the species, limited suitable habitats and generally degraded stream conditions within the project footprint. As a precautionary approach an Assessment of Significance has been completed.

The construction process for the transmission line structures avoids direct impacts to streams. As such, this assessment primarily considers the potential residual indirect impacts following the implementation of avoidance and mitigation measures, to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk during track construction), as described in Section 13.7.

An action is likely to have a significant impact on a critically endangered species if there is a real chance or possibility that it will:

Criteria	Address of Criteria
a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	The project is considered unlikely to adversely affect the life cycle of these species such that a viable local population is likely to be placed at risk of extinction as: • There would be no direct impacts to habitats in the known range of the species. • Any indirect impacts that may occur would be localised and temporary in nature. • A number of avoidance and mitigation measures have been incorporated into the project. • Detailed recommendations as to additional mitigation measures to prevent or reduce indirect impacts to potential habitats for the species have been included in this report.
b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction	Not applicable.
c) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:	Not applicable.

Flatheaded Galaxias (*Galaxias rostratus*): Critically Endangered species	Southern Pygmy Perch (*Nannoperca australis*): Endangered species
i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or ii. Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	
d) in relation to the habitat of a threatened species or ecological community: i. the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	In general, potential habitats for these species within the project footprint would be considered marginal, given the extent of landscape modifications and existing operation of key threats to the species. The nature and scale of possible indirect impacts to potential habitats for these species are not considered significant, especially in the context of existing conditions. It is considered unlikely that the potential indirect impacts would be so significant that they would render any potential habitats no longer suitable, or thereby fragment populations. No indicative access track crossings occur within waterways identified as being within the indicative distribution of the Flatheaded Galaxias and therefore the project would not result in any barriers to fish passage within this indicative distribution. The indicative access track crossing at Yellow Creek (V8-13) and unnamed stream (V8-12) are unlikely to result in any additional barriers to fish passage for the Southern Pygmy Perch, given the streams are outside the known distribution of the species described by Lintermans (2007) and Threatened Species Scientific Committee 2021. Also, in consideration of the number of existing informal access tracks, apparent level of flow at V8-13 and online dams present at V8-12, these potential habitats are considered marginal given the levels of landscape modification, evidence of riparian clearing, grazing bank and erosion described. Considering these factors, the project is considered unlikely to fragment an existing population into two or more populations.
e) whether the proposed development or activity is likely to have an adverse effect on critical habitat (either directly or indirectly),	No critical habitat has been declared for the Flatheaded Galaxias or Southern Pygmy Perch.

Flatheaded Galaxias (*Galaxias rostratus*): Critically Endangered species	Southern Pygmy Perch (*Nannoperca australis*): Endangered species
f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.	No recovery plans or threat abatement plans have been prepared for these species.
g) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The project has the potential to contribute to the operation of three Key Threatening Processes (KTP's). These are: • Degradation of native riparian vegetation along New South Wales water courses • Installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams. • Removal of large woody debris from New South Wales rivers and streams. Avoidance and mitigation measures have been incorporated into the project to minimise the potential for the operation of these KTP's. Additional recommended mitigation measures have been detailed in the following sections to further mitigate the potential for impacts to aquatic environments, including the operation of these KTP's. The project is unlikely to significantly increase the operation of these KTP's, given the landscape context of the project footprint which has been subject to significant existing levels of operation for each of these KTP's.
Conclusion: Considering the following: • Potential habitats for the species within the project footprint would be considered marginal. • No direct impacts to habitats in the known ranges for these species would occur. • Any potential indirect impacts that may occur would be localised and temporary. • The potential for residual indirect impacts would be managed through mitigation measures. It is unlikely that any population of Flathead Galaxias or Southern Pygmy Perch would be significantly impacted by the project.	

Large-bodied fish

Macquarie Perch (*Macquaria australasica*): Endangered species	Trout Cod (*Maccullochella macquariensis*): Endangered species	Silver Perch (*Bidyanus bidyanus*): Critically Endangered species
Distribution: Macquarie Perch from the Murray-Darling Basin strain of the species may occur in the upstream reaches of the Lachlan, Murrumbidgee and Murray rivers. Indicative distribution mapping by NSW DPI for the species	**Distribution:** The only known naturally reproducing (non-translocated) population of Trout Cod occurs in the Murray River below Yarrawonga Weir (NSW DPI 2006), although stocking has occurred at various locations	**Distribution:** Silver perch are endemic to the Murray-Darling system (including all states and sub-basins) and previously occurred in a range of habitats. Silver Perch are generally found in lowland areas outside of cooler

Macquarie Perch (*Macquaria australasica*): Endangered species	Trout Cod (*Maccullochella macquariensis*): Endangered species	Silver Perch (*Bidyanus bidyanus*): Critically Endangered species
includes the Lachlan River and Adjungbilly Creek within the project footprint, although a number of streams may be within the historic distribution of the species (NSW DPI 2015c, NSW DPI 2016a). Overall, the species is considered unlikely to occur within the Murrumbidgee River in the project footprint, with the known population of the species in this river occurring in upstream reaches south of Canberra (DEE 2018). **Habitats:** The Macquarie Perch may occur in stream or lake habitats, with a preference for upper river reaches or tributaries, and lake dwelling individuals of the species will migrate into these habitats to spawn (NSW DPI 2016a). Typical habitat for the species is described as being a large and moderately deep pool immediately upstream of fast-flowing broken water with aquatic vegetation and additional cover in the form of large boulders, debris and overhanging banks, with stream shading provided by steep rock faces, riparian trees or over hanging bank vegetation (DEE 2018).	within the Murrumbidgee River with some success, and Tumut River, although this seems unsuccessful or at least undetermined (Lintermans 2007, Trout Cod Recovery Team 2008). Indicative distribution mapping for the species by NSW DPI includes the Murrumbidgee River within the project footprint. **Habitats:** The species occurs in a variety of flowing habitats, typically in the mid to upper reaches of rivers and streams with cover in the form of woody debris or boulders (Trout Cod Recovery Team 2008). Habitats for the species require substantial amounts of large in-stream woody debris, which provides complex habitat supporting each life-cycle stage of the species (NSW DPI 2017). While such habitats are limited within the project footprint, the species cannot be ruled out as occurring.	upstream waters, although the species may undertake large scale migrations into upstream reaches. Indicative distribution mapping for the species within the project footprint includes the Murrumbidgee River (NSW DPI 2016b, 2022), although currently there is only one known strong viable natural population in the middle Murray region (Threatened Species Scientific Committee 2013). **Habitats:** Silver Perch are generally found in faster flowing streams, including rapid habitats, in more open water habitats. Although the species has also been stocked into impoundments. River regulation, habitat degradation (in particular loss of submerged aquatic macrophytes and siltation), disease and invasive fish species are all identified as key threats to the species (Threatened Species Scientific Committee 2013).
Potential impacts: No streams within the indicative distribution mapping (NSW DPI 2022) for these species are identified as locations for indicative access tracks. The construction process for the transmission line structures avoids direct impacts to streams and none of the waterways that have been mapped as within the species indicative distribution would be crossed by any indicative waterway crossings. As such, this assessment of significance assesses the potential residual indirect impacts following the implementation of avoidance and mitigation measures to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk during track construction), as described in Chapter 12 and 14.		
An action is likely to have a significant impact on a critically endangered species if there is a real chance or possibility that it will:		
Criteria	**Address of Criteria**	
a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse	The project is considered unlikely to adversely affect the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction as: • There would be no direct impacts to potential habitats within the indicative distributions of the species.	

Macquarie Perch (*Macquaria australasica*): Endangered species	Trout Cod (*Maccullochella macquariensis*): Endangered species	Silver Perch (*Bidyanus bidyanus*): Critically Endangered species
effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	• Any indirect impacts that may occur would be localised and temporary in nature. • A number of avoidance and mitigation measures have been incorporated into the project. • Detailed recommendations as to additional mitigation measures to prevent or reduce indirect impacts to potential habitats for the species have been included in this report.	
b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction	Not applicable.	
c) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or ii. Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	Not applicable.	
d) in relation to the habitat of a threatened species or ecological community:	Potential habitats for the species within the project footprint are subject to existing levels of impacts through landscape modification, flow regulation and the degradation of riparian zones.	

Macquarie Perch (*Macquaria australasica*): Endangered species	Trout Cod (*Maccullochella macquariensis*): Endangered species	Silver Perch (*Bidyanus bidyanus*): Critically Endangered species
i. the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	The nature and scale of possible indirect impacts to potential habitats for the species are not considered significant, especially in the context of existing conditions. It is considered unlikely that the potential indirect impacts would be so significant that they would render any potential habitats no longer suitable, or thereby fragment populations. No indicative access track crossings occur within waterways identified as being within the indicative distribution of the species or known populations and therefore the project would not result in any barriers to fish passage within these reaches. As such, the project is considered unlikely to fragment an existing population into two or more populations.	
e) whether the proposed development or activity is likely to have an adverse effect on critical habitat (either directly or indirectly),	To date, no critical habitat for these species has been included in the Register of Critical Habitat. The National Recovery Plan for the Macquarie Perch (DEE 2018) identifies critical habitat as: • All areas within the species' range which are characterised by flowing runs or riffles and small complex rock piles; • The current area of occupancy of the species (including historically translocated populations in Cataract Reservoir and the Mongarlowe River in New South Wales and the Yarra River in Victoria); • Any newly discovered locations within the species' natural range which hold populations that extend the area of occupancy for the species; • Unoccupied habitat within the species' natural range into which the species could disperse, be stocked or be translocated. Whilst the current area of occupancy is referenced in the National Recovery Plan for the Macquarie Perch, the document does not define this current area of occupancy of the species. The project footprint does extend into the natural range of the species as described in the National Recovery Plan, as it includes Adjungbilly Creek. Sections of riffle may be present along reaches of Adjungbilly Creek and the Lachlan River within or adjacent to the project footprint, as such these habitats may be considered critical habitat. Neither the National Recovery Plan (Trout Cod Recovery Team 2008) or NSW Recovery Plan (NSW DPI 2006a) for Trout Cod does not identify habitat critical to the survival of the species. The National Recovery Plan does note that an assessment of habitat critical to	

Macquarie Perch (*Macquaria australasica*): Endangered species	Trout Cod (*Maccullochella macquariensis*): Endangered species	Silver Perch (*Bidyanus bidyanus*): Critically Endangered species
	survival of the Trout Cod population in the Murray River found that the species inhabited river positions where large woody debris was present in high quantity, close to deeper water and high surface velocity, further from the bank (Trout Cod Recovery Team 2008). No direct impacts to critical habitat would occur as a result of the project. Any indirect impacts that may occur would be temporary and localised. The key potential indirect impact that could occur would be the potential for sedimentation associated with construction work that could infill the interstitial spaces between rocks and pebbles used by Macquarie Perch for spawning. This is considered unlikely to occur given mitigation measures adopted and recommended to control this risk and the distance at which construction would be taking place from these reaches that would be considered critical habitat (approximately 50 metres from the bank). Recommendations to avoid and mitigate impacts to coarse woody debris, key habitat for the Trout Cod have been included in this report.	
f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.	The National Recovery Plan for the Macquarie Perch (DEE 2018) identifies the following strategies to achieve the recovery plan objectives: • Conserve existing Macquarie perch (including historically translocated populations in Cataract Reservoir and the Mongarlowe and Yarra rivers) • Protect and restore Macquarie perch habitat • Understand and address threats to Macquarie perch populations and habitats • Establish additional Macquarie perch populations within the species' natural range • Improve understanding of the biology and ecology of the Macquarie perch and its distribution and abundance; and • Increase participation by community groups in Macquarie perch conservation. The NSW Trout Cod Recovery Plan (DPI 2006a) identifies recovery actions to occur in a number of areas, including: • Habitat protection and restoration • Reduce the impact of Illegal fishing and incidental capture • Minimising risks from inter-specific competition and introduced species • Establishing new populations through stocking • Research and monitoring • Community awareness, involvement and support. The NSW Silver Perch Recovery Plan (DPI 2006b) identifies recovery actions to occur in a number of areas, including: • Increase awareness of the current status of silver perch throughout its range.	

Macquarie Perch (*Macquaria australasica*): Endangered species	Trout Cod (*Maccullochella macquariensis*): Endangered species	Silver Perch (*Bidyanus bidyanus*): Critically Endangered species
	• Increase scientific knowledge of the current distribution, ecological and habitat requirements and population genetics of silver perch. • Protect and enhance remaining natural populations of silver perch. • Ameliorate the impacts of known major threats to silver perch. • Minimise any fishing impacts on natural populations through enhanced compliance with fishing regulations and involvement of recreational fishers. • Improve management of aquaculture and stocking programs. • Encourage and support the involvement of indigenous communities in the implementation of recovery actions. • Establish a program to monitor the status of silver perch and evaluate the effectiveness of recovery actions. The project would not directly interfere with these strategies or associated actions.	
g) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The project has the potential to contribute to the operation of three KTP's. These are: • Degradation of native riparian vegetation along New South Wales water courses • Installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams. • Removal of large woody debris from New South Wales rivers and streams. Avoidance and mitigation measures have been incorporated into the project to minimise the potential for the operation of these KTP's. Additional recommended mitigation measures have been detailed in the following sections to further mitigate the potential for impacts to aquatic environments, including the operation of these KTP's. The project is unlikely to significantly increase the operation of these KTP's, especially given the landscape context of the project footprint that that has been subject to significant existing levels of operation for each of these KTP's.	
Conclusion: Considering the following: • No direct impacts to potential habitats for the species will occur. • Any potential indirect impacts that may occur would be localised and temporary. • The potential for residual indirect impacts would be managed through mitigation measures. it is unlikely that any local population of Macquarie Perch, Trout Cod or Silver Perch would be significantly impacted by the project.		

Murray Crayfish (*Euastacus armatus*)

Murray Crayfish (*Euastacus armatus*)	**Vulnerable species**
Distribution and Habitats: The Murray Crayfish may occur in the streams within the Murrumbidgee catchment with indicative distribution mapping including 13 streams within the project footprint identified in Table 9-1 (NSW DPI 2018, 2022). The species may occupy a range of habitats from pasturelands to sclerophyll forest with cool, well oxygenated flowing water (NSW DPI 2019). **Potential impacts:** No streams within the indicative distribution mapping (NSW DPI 2022) for the species are identified as locations for indicative access tracks. The construction process for the transmission line structures avoids direct impacts to streams and none of the waterways that have been mapped as within the species indicative distribution would be crossed by any indicative waterway crossings. As such, this assessment of significance assesses the potential residual indirect impacts following the implementation of avoidance and mitigation measures to the species (ie the removal of native riparian vegetation, erosion and sedimentation risk during track construction), as described in Chapter 13.7.	
An action is likely to have a significant impact on a critically endangered species if there is a real chance or possibility that it will:	
Criteria	**Address of Criteria**
a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	The project is considered unlikely to adversely affect the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction as: • There would be no direct impacts to potential habitats within the indicative distribution of the species. • Any indirect impacts that may occur would be localised and temporary in nature. • A number of avoidance and mitigation measures have been incorporated into the project. • Detailed recommendations as to additional mitigation measures to prevent or reduce indirect impacts to potential habitats for the species have been included in this report.
b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction	Not applicable.
c) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:	Not applicable.

Murray Crayfish (*Euastacus armatus*)	Vulnerable species
i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or ii. Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	
d) in relation to the habitat of a threatened species or ecological community: i. the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	Potential habitats for the species within the project footprint are subject to existing levels of impacts through landscape modification and the degradation of riparian zones. The nature and scale of possible indirect impacts to potential habitats for the species are not considered significant, especially in the context of existing conditions. It is considered unlikely that the potential indirect impacts would be so significant that they would render any potential habitats no longer suitable, or thereby fragment populations. No indicative access track crossings occur within waterways identified as being within the indicative distribution of the species or known populations and therefore the project will not result in any barriers to fish passage within these reaches. As such, the project is considered unlikely to fragment an existing population into two or more populations.
e) whether the proposed development or activity is likely to have an adverse effect on critical habitat (either directly or indirectly),	To date, no critical habitat for the species has been included in the Register of Critical Habitat. No direct impacts to critical habitat would occur as a result of the project. Any indirect impacts that may occur would be temporary and localised.
f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.	No recovery plan or threat abatement plan has been prepared for this species.
g) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The project has the potential to contribute to the operation of three Key Threatening Processes (KTP's). These are: • Degradation of native riparian vegetation along New South Wales water courses • Installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams. • Removal of large woody debris from New South Wales rivers and streams.

Murray Crayfish (*Euastacus armatus*)	Vulnerable species
	Avoidance and mitigation measures have been incorporated into the project to minimise the potential for the operation of these KTP's. Additional recommended mitigation measures have been detailed in the following sections to further mitigate the potential for impacts to aquatic environments, including the operation of these KTP's. The project is unlikely to significantly increase the operation of these KTP's, especially given the landscape context of the project footprint that that has been subject to significant existing levels of operation for each of these KTP's.
Conclusion: Considering the following: • No direct impacts to potential habitats for the species will occur. • Any potential indirect impacts that may occur would be localised and temporary. • The potential for residual indirect impacts would be managed through mitigation measures. it is unlikely that any local population of Murray Crayfish would be significantly impacted by the project.	

Aquatic Ecological Community In The Natural Drainage System Of The Lower Murray River Catchment

Lowland Murray River EEC	Endangered Ecological Community
Distribution: Of relevance to the project, the lower Murray River aquatic ecological community includes the Murrumbidgee River below Burrinjuck Dam and the Tumut River below Blowering Dam, while the Lachlan River and its tributaries are excluded from the aquatic ecological community. The lower Murray aquatic ecological community includes all native fish and aquatic invertebrates within all natural creeks, rivers and associated lagoons, billabongs and lakes of the regulated portions of the Murray, Murrumbidgee and Tumut rivers, as well as all their tributaries and branches (NSW DPI 2007). **Potential impacts:** The construction process for the transmission line structures avoids direct impacts to streams. A number of access track crossings would be required to support the project, which present the primary pathway of potential direct impact to aquatic environments. A total of 28 indicative access track crossings intersect with 23 streams that are mapped as KFH or indicative distribution mapping for threatened aquatic species (DPI 2022a), which are most likely to present higher ecological values, higher stream orders and more permanent water (as described in Section 4.8.3). These 23 streams are typically small and subject to degrees of existing degradation, appearing to be in an overall poor condition. Only three of these streams have received freshwater fish community grades, with each of these described as "Very Poor". There is also the potential for residual	

Lowland Murray River EEC	Endangered Ecological Community
indirect impacts following the implementation of avoidance measures (ie the removal of native riparian vegetation, erosion and sedimentation risk during track construction). A comprehensive suite of mitigation measures have been adopted and recommended to further reduce the likelihood of potential impacts to natural biota within the lower Murray aquatic ecological community, as described in Section 14.2.	
An action is likely to have a significant impact on a endangered ecological community if there is a real chance or possibility that it will:	
Criteria	**Address of Criteria**
a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	Not applicable.
b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction	Not applicable.
c) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or ii. Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	The project is considered unlikely to adversely affect the extent, or modify the composition, of the community such that the local occurrence is likely to be placed at risk of extinction as: • There is the potential for the project to result in small scale and localised impacts to aquatic habitats and biota at the indicative access track crossings. However, the scale of these potential impacts are not considered significant in the context of existing conditions • These potential impacts are not at the level at which it would result in any declines in the extent of the community, or result in changes to, or a loss of any overall community composition. • Any indirect impacts that may occur would be localised and temporary in nature. • A number of avoidance and mitigation measures have been incorporated into the project. • Detailed recommendations as to additional mitigation measures to prevent or reduce indirect impacts to potential habitats for the species have been included in this report.
d) in relation to the habitat of a threatened species or ecological community: i. the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and	The nature and scale of possible indirect impacts to potential habitats for the species are not considered significant, especially in the context of existing conditions. It is considered unlikely that the potential indirect impacts would be so significant that they would render any potential habitats no longer suitable for native aquatic biota.

Lowland Murray River EEC	Endangered Ecological Community
ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	The construction of access track crossings has the potential to result in localised impediments to fish passage. However, these indicative access tracks are located across predominantly small streams (stream orders of 1 or 2) and no impediments to the potential movement of any threatened species are anticipated. These localised crossings are not considered to represent significant impacts in the context of existing degraded conditions, or likely to result in any further significant decline in stream conditions. Furthermore, the design of the access tracks will be in accordance with relevant guidelines including: • Policy and guidelines for fish habitat conservation and management (Fairfull 2013) • Policy and Guidelines for Fish Friendly Waterway Crossings (DPI N.D.) • Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings (DPI 2003) • Water Guidelines for Controlled Activities on Waterfront Land (DPI Office of Water 2012). Based on the desktop assessment of aquatic points of interest and the KFH at indicative crossing locations, the aquatic habitat to be impacted is not considered important to the long-term survival of the ecological community.
e) whether the proposed development or activity is likely to have an adverse effect on critical habitat (either directly or indirectly),	To date, no critical habitat for the community has been included in the Register of Critical Habitat.
f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.	No recovery plan or threat abatement plan has been prepared for this community.
g) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The project has the potential to contribute to the operation of three Key Threatening Processes (KTP's). These are: • Degradation of native riparian vegetation along New South Wales water courses • Installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams. • Removal of large woody debris from New South Wales rivers and streams. Avoidance and mitigation measures have been incorporated into the project to minimise the potential for the operation of these KTP's. Additional recommended mitigation measures have been detailed in the following sections to further mitigate the potential for impacts to aquatic environments, including the operation of these KTP's.

Lowland Murray River EEC	Endangered Ecological Community
	The project is unlikely to significantly increase the operation of these KTP's, especially given the landscape context of the project footprint that that has been subject to significant existing levels of operation for each of these KTP's.

Conclusion: Considering the following:

- Potential impacts would be small scale and localised.
- The scale of these potential impacts are not considered significant in the context of existing conditions, or at the level at which they would result in any declines in the extent of the community, or change the overall community composition.
- Any indirect impacts that may occur would be localised and temporary in nature.
- A number of avoidance and mitigation measures have been incorporated into the project.

it is unlikely that any local population of Lowland Murray River EEC would be significantly impacted by the project.

Attachment 20. Ecosystem and species credits required (BAM-C credit report)

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029447

Proposal Name
6699 Humelink Assessment - Bondo

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Name(s)
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
6

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Pseudomys fumeus / Smoky Mouse

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion	Not a TEC	0.7	9	0	9.00
295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Not a TEC	1.8	27	2	29.00
296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion	Not a TEC	0.0	0	1	1.00
299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Not a TEC	2.6	27	0	27.00

953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	33.7	554	25	579.00

285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 298, 304, 338, 353, 1094, 1095, 3535, 3540, 4152	Upper Riverina Dry Sclerophyll Forests >=70% and <90%	285_Low_TCZ_100	Yes	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 298, 304, 338, 353, 1094, 1095, 3535, 3540, 4152	Upper Riverina Dry Sclerophyll Forests >=70% and <90%	285_Low_ECZ_100	Yes	7	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 298, 304, 338, 353, 1094, 1095, 3535, 3540, 4152	Upper Riverina Dry Sclerophyll Forests >=70% and <90%	285_Low_HTZ_100	Yes	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region

	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 2 or higher threat status	285_Low_TCZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 2 or higher threat status	285_Low_ECZ_100	Yes (including artificial)	7	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 2 or higher threat status	285_Low_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Moderate_TCZ_100	Yes	14	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Moderate_ECZ_100	Yes	12	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Moderate_HTZ_100	Yes	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Low_TCZ_100	No	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Low_ECZ_100	No	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	295_Moderate_TCZ_100	Yes (including artificial)	14	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	295_Moderate_ECZ_100	Yes (including artificial)	12	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	295_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	295_Low_TCZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	295_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	296_Low_TCZ_100	No	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	296_Low_TCZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Moderate_TCZ_100	Yes	19	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Moderate_ECZ_100	Yes	7	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Moderate_HTZ_100	Yes	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_TCZ_100	No	0	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_ECZ_100	No	0	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_HTZ_100	No	0	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Moderate_TCZ_100	Yes (including artificial)	19	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Moderate_ECZ_100	Yes (including artificial)	7	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Verylow_ECZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Verylow_HTZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_TCZ_100	Yes	5	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_ECZ_100	Yes	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_HTZ_100	Yes	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_TCZ_100	Yes	251	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_ECZ_100	Yes	250	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_HTZ_100	Yes	46	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_TCZ_100	No	22	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_ECZ_100	No	2	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_HTZ_100	No	1	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Verylow_TCZ_100	No	0	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Verylow_ECZ_100	No	0	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Verylow_HTZ_100	No	0	Bondo,Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Veryhigh_TCZ_100	Yes (including artificial)	5	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Veryhigh_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Veryhigh_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_High_TCZ_100	Yes (including artificial)	251	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_High_ECZ_100	Yes (including artificial)	250	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_High_HTZ_100	Yes (including artificial)	46	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Low_TCZ_100	No	22	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Low_ECZ_100	No	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Low_HTZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Verylow_ECZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Verylow_HTZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Ammobium craspedioides / Yass Daisy	**299_Moderate_TCZ_100**	1.0	2.00
Callocephalon fimbriatum / Gang-gang Cockatoo	**295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	22.1	564.00

Cercartetus nanus / Eastern Pygmy-possum	**295_Moderate_TCZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.7	553.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**299_Moderate_TCZ_100, 953_High_TCZ_100, 953_Low_TCZ_100**	0.4	11.00

Hieraaetus morphnoides / Little Eagle	**285_Low_ECZ_100, 285_Low_HTZ_100, 295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 296_Low_TCZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	32.9	621.00
Leucochrysum albicans var. tricolor / Hoary Sunray	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100, 953_Verylow_TCZ_100, 953_Verylow_ECZ_100, 953_Verylow_HTZ_100**	2885.0	5770.00

Litoria booroolongensis / Booroolong Frog	**299_Verylow_HTZ_100**	0.1	0.00
Lophoictinia isura / Square-tailed Kite	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	29.2	564.00
Myotis macropus / Southern Myotis	**299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100**	1.0	20.00
Ninox connivens / Barking Owl	**295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.4	543.00

Ninox strenua / Powerful Owl	**295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.4	543.00
Petauroides volans / Southern Greater Glider	**299_Moderate_TCZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	20.5	526.00
Petaurus norfolcensis / Squirrel Glider	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.1	541.00

Petroica rodinogaster / Pink Robin	**299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	30.6	783.00
Phascogale tapoatafa / Brush-tailed Phascogale	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.1	541.00

Phascolarctos cinereus / Koala	**285_Low_ECZ_100, 285_Low_HTZ_100, 295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 296_Low_TCZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	32.9	827.00
Pseudomys fumeus / Smoky Mouse	**953_High_TCZ_100, 953_Low_TCZ_100**	0.1	2.00
Tyto novaehollandiae / Masked Owl	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	20.5	525.00

Credit Retirement Options

Like-for-like options

Ammobium craspedioides/ Yass Daisy	Spp		IBRA region
	Ammobium craspedioides/Yass Daisy		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp		IBRA region
	Callocephalon fimbriatum/Gang-gang Cockatoo		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Cercartetus nanus/ Eastern Pygmy-possum	Spp		IBRA region
	Cercartetus nanus/Eastern Pygmy-possum		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Haliaeetus leucogaster/ White-bellied Sea-Eagle	Spp		IBRA region
	Haliaeetus leucogaster/White-bellied Sea-Eagle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Hieraaetus morphnoides/ Little Eagle	Spp		IBRA region
	Hieraaetus morphnoides/Little Eagle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Leucochrysum albicans var. tricolor/ Hoary Sunray	Spp		IBRA region
	Leucochrysum albicans var. tricolor/Hoary Sunray		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora		Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Litoria booroolongensis/ Booroolong Frog	Spp		IBRA region
	Litoria booroolongensis/Booroolong Frog		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Lophoictinia isura/ Square-tailed Kite	Spp		IBRA region
	Lophoictinia isura/Square-tailed Kite		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Myotis macropus/ Southern Myotis	Spp		IBRA region
	Myotis macropus/Southern Myotis		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox connivens/ Barking Owl	Spp		IBRA region
	Ninox connivens/Barking Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Ninox strenua/ Powerful Owl	Spp		IBRA region
	Ninox strenua/Powerful Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petauroides volans/ Southern Greater Glider	Spp		IBRA region
	Petauroides volans/Southern Greater Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Petaurus norfolcensis/ Squirrel Glider	Spp		IBRA region
	Petaurus norfolcensis/Squirrel Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petroica rodinogaster/ Pink Robin	Spp		IBRA region
	Petroica rodinogaster/Pink Robin		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Phascogale tapoatafa/ Brush-tailed Phascogale	Spp		IBRA region
	Phascogale tapoatafa/Brush-tailed Phascogale		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp		IBRA region
	Phascolarctos cinereus/Koala		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Pseudomys fumeus/ Smoky Mouse	Spp		IBRA region
	Pseudomys fumeus/Smoky Mouse *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*		Any in NSW
Tyto novaehollandiae/ Masked Owl	Spp		IBRA region
	Tyto novaehollandiae/Masked Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029447

Proposal Name
6699 Humelink Assessment - Bondo

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
6

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Pseudomys fumeus / Smoky Mouse

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion	Not a TEC	0.7	9	0	9
295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Not a TEC	1.8	27	2	29
296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion	Not a TEC	0.0	0	1	1
299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Not a TEC	2.6	27	0	27
953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	33.7	554	25	579

285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 298, 304, 338, 353, 1094, 1095, 3535, 3540, 4152	Upper Riverina Dry Sclerophyll Forests >=70% and <90%	285_Low_TCZ_100	Yes	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 298, 304, 338, 353, 1094, 1095, 3535, 3540, 4152	Upper Riverina Dry Sclerophyll Forests >=70% and <90%	285_Low_ECZ_100	Yes	7	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 298, 304, 338, 353, 1094, 1095, 3535, 3540, 4152	Upper Riverina Dry Sclerophyll Forests >=70% and <90%	285_Low_HTZ_100	Yes	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion	
295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Moderate_TCZ_100	Yes	14	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Moderate_ECZ_100	Yes	12	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Moderate_HTZ_100	Yes	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Low_TCZ_100	No	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	295_Low_ECZ_100	No	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	296_Low_TCZ_100	No	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Moderate_TCZ_100	Yes	19	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Moderate_ECZ_100	Yes	7	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Moderate_HTZ_100	Yes	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_TCZ_100	No	0	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_ECZ_100	No	0	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_HTZ_100	No	0	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_ TCZ_100	Yes	5	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_ECZ_100	Yes	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_HTZ_100	Yes	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_TCZ_100	Yes	251	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_ECZ_100	Yes	250	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_HTZ_100	Yes	46	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_TCZ_100	No	22	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_ECZ_100	No	2	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_HTZ_100	No	1	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Verylow_TCZ_100	No	0	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Verylow_ECZ_100	No	0	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Verylow_HTZ_100	No	0	Bondo, Bondo, Inland Slopes, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Ammobium craspedioides / Yass Daisy	**299_Moderate_TCZ_100**	1.0	2.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	22.1	564.00
Cercartetus nanus / Eastern Pygmy-possum	**295_Moderate_TCZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.7	553.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**299_Moderate_TCZ_100, 953_High_TCZ_100, 953_Low_TCZ_100**	0.4	11.00

Hieraaetus morphnoides / Little Eagle	**285_Low_ECZ_100, 285_Low_HTZ_100, 295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 296_Low_TCZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	32.9	621.00

Leucochrysum albicans var. tricolor / Hoary Sunray	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100, 953_Verylow_TCZ_100, 953_Verylow_ECZ_100, 953_Verylow_HTZ_100**	2885.0	5770.00
Litoria booroolongensis / Booroolong Frog	**299_Verylow_HTZ_100**	0.1	0.00
Lophoictinia isura / Square-tailed Kite	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	29.2	564.00
Myotis macropus / Southern Myotis	**299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100**	1.0	20.00

Ninox connivens / Barking Owl	**295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.4	543.00
Ninox strenua / Powerful Owl	**295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.4	543.00
Petauroides volans / Southern Greater Glider	**299_Moderate_TCZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	20.5	526.00

Petaurus norfolcensis / Squirrel Glider	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.1	541.00
Petroica rodinogaster / Pink Robin	**299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	30.6	783.00
Phascogale tapoatafa / Brush-tailed Phascogale	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	21.1	541.00

Phascolarctos cinereus / Koala	**285_Low_ECZ_100, 285_Low_HTZ_100, 295_Moderate_TCZ_100, 295_Moderate_ECZ_100, 295_Moderate_HTZ_100, 296_Low_TCZ_100, 299_Moderate_TCZ_100, 299_Moderate_ECZ_100, 299_Moderate_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100**	32.9	827.00
Pseudomys fumeus / Smoky Mouse	**953_High_TCZ_100, 953_Low_TCZ_100**	0.1	2.00
Tyto novaehollandiae / Masked Owl	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_High_ECZ_100, 953_High_HTZ_100**	20.5	525.00

Credit Retirement Options	Like-for-like credit retirement options	
Ammobium craspedioides / Yass Daisy	Spp	IBRA subregion
	Ammobium craspedioides / Yass Daisy	Any in NSW
Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Haliaeetus leucogaster / White-bellied Sea-Eagle	Spp	IBRA subregion
	Haliaeetus leucogaster / White-bellied Sea-Eagle	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Leucochrysum albicans var. tricolor / Hoary Sunray	Spp	IBRA subregion
	Leucochrysum albicans var. tricolor / Hoary Sunray	Any in NSW

Litoria booroolongensis / Booroolong Frog	Spp	IBRA subregion
	Litoria booroolongensis / Booroolong Frog	Any in NSW
Lophoictinia isura / Square-tailed Kite	Spp	IBRA subregion
	Lophoictinia isura / Square-tailed Kite	Any in NSW
Myotis macropus / Southern Myotis	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Ninox connivens / Barking Owl	Spp	IBRA subregion
	Ninox connivens / Barking Owl	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Petauroides volans / Southern Greater Glider	Spp	IBRA subregion
	Petauroides volans / Southern Greater Glider	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion

	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Petroica rodinogaster / Pink Robin	Spp	IBRA subregion
	Petroica rodinogaster / Pink Robin	Any in NSW
Phascogale tapoatafa / Brush-tailed Phascogale	Spp	IBRA subregion
	Phascogale tapoatafa / Brush-tailed Phascogale	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW
Pseudomys fumeus / Smoky Mouse	Spp	IBRA subregion
	Pseudomys fumeus / Smoky Mouse	Any in NSW
Tyto novaehollandiae / Masked Owl	Spp	IBRA subregion
	Tyto novaehollandiae / Masked Owl	Any in NSW

BAM Candidate Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029447	6699 Humelink Assessment - Bondo	22/06/2023
Assessor Name	Report Created	BAM Data version *
Simon Tweed	18/08/2023	61
Assessor Number	Assessment Type	BAM Case Status
BAAS17040	Major Projects	Finalised
Assessment Revision	Date Finalised	
6	18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Ammobium craspedioides Yass Daisy	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed)	☑ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Haliaeetus leucogaster White-bellied Sea-Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans var. tricolor Hoary Sunray	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Litoria booroolongensis Booroolong Frog	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Ninox connivens Barking Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Southern Greater Glider	Yes (surveyed)	☑ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis Squirrel Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascogale tapoatafa Brush-tailed Phascogale	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pseudomys fumeus Smoky Mouse	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Tyto novaehollandiae Masked Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

Common Name	Scientific Name
Yass Daisy	Ammobium craspedioides

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Caladenia montana	Caladenia montana	Refer to BAR
Large Bent-winged Bat	Miniopterus orianae oceanensis	Habitat constraints

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029447

Proposal Name
6699 Humelink Assessment - Bondo

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
6

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits

Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion												
9	296_Low_TCZ_100	Not a TEC	25.1	25.1	0.02	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
											Subtotal	**1**
Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion												
1	285_Low_TCZ_100	Not a TEC	21.5	21.5	0.01	PCT Cleared - 75%	High Sensitivity to Gain			2.00		1
2	285_Low_ECZ_100	Not a TEC	21.5	20.8	0.66	PCT Cleared - 75%	High Sensitivity to Gain			2.00		7
3	285_Low_HTZ_100	Not a TEC	21.5	13.2	0.07	PCT Cleared - 75%	High Sensitivity to Gain			2.00		1
											Subtotal	**9**
Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion												
16	953_Veryhigh_TCZ_100	Not a TEC	90.7	90.7	0.16	PCT Cleared - 5%	High Sensitivity to Gain			1.50		5

17	953_Veryhigh_ECZ_100	Not a TEC	90.7	73.4	0.03	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
18	953_Veryhigh_HTZ_100	Not a TEC	90.7	25.4	0.07	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
19	953_High_TCZ_100	Not a TEC	69.6	69.6	9.6	PCT Cleared - 5%	High Sensitivity to Gain			1.50		251
20	953_High_ECZ_100	Not a TEC	69.6	62.3	10.7	PCT Cleared - 5%	High Sensitivity to Gain			1.50		250
21	953_High_HTZ_100	Not a TEC	69.6	15.8	7.8	PCT Cleared - 5%	High Sensitivity to Gain			1.50		46
22	953_Low_TCZ_100	Not a TEC	27.9	27.9	2.1	PCT Cleared - 5%	High Sensitivity to Gain			1.50		22
23	953_Low_ECZ_100	Not a TEC	27.9	25.1	0.16	PCT Cleared - 5%	High Sensitivity to Gain			1.50		2
24	953_Low_HTZ_100	Not a TEC	27.9	3.3	0.07	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
25	953_Verylow_TCZ_100	Not a TEC	5.4	5.4	2.6	PCT Cleared - 5%	High Sensitivity to Gain			1.50		0

26	953_Verylow_ECZ_100	Not a TEC	5.4	0.0	0.23	PCT Cleared - 5%	High Sensitivity to Gain			1.50		0
27	953_Verylow_HTZ_100	Not a TEC	5.4	0.0	0.19	PCT Cleared - 5%	High Sensitivity to Gain			1.50		0
											Subtotal	**579**
Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion												
10	299_Moderate_TCZ_100	Not a TEC	57.6	57.6	0.77	PCT Cleared - 50%	High Sensitivity to Gain			1.75		19
11	299_Moderate_ECZ_100	Not a TEC	57.6	43.9	0.36	PCT Cleared - 50%	High Sensitivity to Gain			1.75		7
12	299_Moderate_HTZ_100	Not a TEC	57.6	1.5	0.25	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1
13	299_Verylow_TCZ_100	Not a TEC	5.4	5.4	0.19	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
14	299_Verylow_ECZ_100	Not a TEC	5.4	0.0	0.42	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
15	299_Verylow_HTZ_100	Not a TEC	5.4	0.0	0.63	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0

											Subtotal	**27**
Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion												
4	295_Moderate_TCZ_100	Not a TEC	53.7	53.7	0.69	PCT Cleared - 40%	High Sensitivity to Gain			1.50		14
5	295_Moderate_ECZ_100	Not a TEC	53.7	42.1	0.77	PCT Cleared - 40%	High Sensitivity to Gain			1.50		12
6	295_Moderate_HTZ_100	Not a TEC	53.7	19.7	0.2	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
7	295_Low_TCZ_100	Not a TEC	28	28.0	0.08	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
8	295_Low_ECZ_100	Not a TEC	28	25.1	0.04	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
											Subtotal	**29**
											Total	**645**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits

Ammobium craspedioides / Yass Daisy (Flora)									
299_Moderate_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
								Subtotal	**2**
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
295_Moderate_TCZ_100	53.7	53.7	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
295_Moderate_ECZ_100	42.1	42.1	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	9
295_Moderate_HTZ_100	19.7	19.7	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
299_Moderate_TCZ_100	57.6	57.6	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
299_Moderate_ECZ_100	43.9	43.9	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2

299_Moderate_HTZ_100	1.5	1.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
953_High_TCZ_100	69.6	69.6	6.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	234
953_High_ECZ_100	62.3	62.3	8.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	252
953_High_HTZ_100	15.8	15.8	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	47
								Subtotal	**564**

Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
295_Moderate_TCZ_100	53.7	53.7	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
299_Moderate_TCZ_100	57.6	57.6	0.47	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	14
299_Moderate_ECZ_100	43.9	43.9	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
299_Moderate_HTZ_100	1.5	1.5	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	6.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	226
953_High_ECZ_100	62.3	62.3	8.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	251
953_High_HTZ_100	15.8	15.8	6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	47
								Subtotal	**553**

Haliaeetus leucogaster / White-bellied Sea-Eagle (Fauna)									
299_Moderate_TCZ_100	57.6	57.6	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	0.21	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	7
953_Low_TCZ_100	27.9	27.9	0.21	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	3
								Subtotal	**11**
Hieraaetus morphnoides / Little Eagle (Fauna)									
285_Low_ECZ_100	20.8	20.8	0.58	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
285_Low_HTZ_100	13.2	13.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

295_Moderate_TCZ_100	53.7	53.7	0.66	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
295_Moderate_ECZ_100	42.1	42.1	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	12
295_Moderate_HTZ_100	19.7	19.7	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
296_Low_TCZ_100	25.1	25.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
299_Moderate_TCZ_100	57.6	57.6	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17
299_Moderate_ECZ_100	43.9	43.9	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

299_Moderate_HTZ_100	1.5	1.5	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Veryhigh_TCZ_100	90.7	90.7	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	9.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	251
953_High_ECZ_100	62.3	62.3	10.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	250

953_High_HTZ_100	15.8	15.8	7.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	46
953_Low_TCZ_100	27.9	27.9	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
953_Low_ECZ_100	25.1	25.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Low_HTZ_100	3.3	3.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**621**
Leucochrysum albicans var. tricolor / Hoary Sunray (Flora)									
953_Veryhigh_TCZ_100	N/A	N/A	12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	24

953_Veryhigh_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	6
953_Veryhigh_HTZ_100	N/A	N/A	6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	12
953_High_TCZ_100	N/A	N/A	840	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	1680
953_High_ECZ_100	N/A	N/A	889	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	1778
953_High_HTZ_100	N/A	N/A	638	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	1276
953_Low_TCZ_100	N/A	N/A	196	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	392

953_Low_ECZ_100	N/A	N/A	15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	30
953_Low_HTZ_100	N/A	N/A	7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	14
953_Verylow_TCZ_100	N/A	N/A	239	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	478
953_Verylow_ECZ_100	N/A	N/A	22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	44
953_Verylow_HTZ_100	N/A	N/A	18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Endangered	False	36
								Subtotal	**5770**

Litoria booroolongensis / Booroolong Frog (Fauna)									
299_Verylow_HTZ_100	0.0	0.0	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	0
								Subtotal	**0**
Lophoictinia isura / Square-tailed Kite (Fauna)									
953_Veryhigh_TCZ_100	90.7	90.7	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	9.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	251

953_High_ECZ_100	62.3	62.3	10.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	250
953_High_HTZ_100	15.8	15.8	7.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	46
953_Low_TCZ_100	27.9	27.9	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
953_Low_ECZ_100	25.1	25.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Low_HTZ_100	3.3	3.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**564**

Myotis macropus / Southern Myotis (Fauna)									
299_Moderate_TCZ_100	57.6	57.6	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
299_Moderate_ECZ_100	43.9	43.9	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
299_Moderate_HTZ_100	1.5	1.5	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**20**
Ninox connivens / Barking Owl (Fauna)									
295_Moderate_TCZ_100	53.7	53.7	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
295_Moderate_ECZ_100	42.1	42.1	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9
295_Moderate_HTZ_100	19.7	19.7	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	6.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	220
953_High_ECZ_100	62.3	62.3	8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	250
953_High_HTZ_100	15.8	15.8	5.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	47
								Subtotal	**543**

Ninox strenua / Powerful Owl (Fauna)									
295_Moderate_TCZ_100	53.7	53.7	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
295_Moderate_ECZ_100	42.1	42.1	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9
295_Moderate_HTZ_100	19.7	19.7	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	6.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	220

953_High_ECZ_100	62.3	62.3	8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	250
953_High_HTZ_100	15.8	15.8	5.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	47
								Subtotal	**543**
Petauroides volans / Southern Greater Glider (Fauna)									
299_Moderate_TCZ_100	57.6	57.6	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1

953_High_TCZ_100	69.6	69.6	6.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	220
953_High_ECZ_100	62.3	62.3	8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	250
953_High_HTZ_100	15.8	15.8	5.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	47
								Subtotal	**526**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

953_High_TCZ_100	69.6	69.6	6.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	234
953_High_ECZ_100	62.3	62.3	8.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	252
953_High_HTZ_100	15.8	15.8	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	47
								Subtotal	**541**
Petroica rodinogaster / Pink Robin (Fauna)									
299_Moderate_TCZ_100	57.6	57.6	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	22
299_Moderate_ECZ_100	43.9	43.9	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
299_Moderate_HTZ_100	1.5	1.5	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

953_Veryhigh_TCZ_100	90.7	90.7	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	9.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	335
953_High_ECZ_100	62.3	62.3	10.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	334
953_High_HTZ_100	15.8	15.8	7.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	61

953_Low_TCZ_100	27.9	27.9	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11
953_Low_ECZ_100	25.1	25.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Low_HTZ_100	3.3	3.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**783**
Phascogale tapoatafa / Brush-tailed Phascogale (Fauna)									
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

953_High_TCZ_100	69.6	69.6	6.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	234
953_High_ECZ_100	62.3	62.3	8.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	252
953_High_HTZ_100	15.8	15.8	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	47
								Subtotal	**541**
Phascolarctos cinereus / Koala (Fauna)									
285_Low_ECZ_100	20.8	20.8	0.58	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
285_Low_HTZ_100	13.2	13.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
295_Moderate_TCZ_100	53.7	53.7	0.66	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18

295_Moderate_ECZ_100	42.1	42.1	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	16
295_Moderate_HTZ_100	19.7	19.7	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
296_Low_TCZ_100	25.1	25.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
299_Moderate_TCZ_100	57.6	57.6	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
299_Moderate_ECZ_100	43.9	43.9	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
299_Moderate_HTZ_100	1.5	1.5	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

953_Veryhigh_TCZ_100	90.7	90.7	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
953_High_TCZ_100	69.6	69.6	9.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	335
953_High_ECZ_100	62.3	62.3	10.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	334
953_High_HTZ_100	15.8	15.8	7.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	61

953_Low_TCZ_100	27.9	27.9	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
953_Low_ECZ_100	25.1	25.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
953_Low_HTZ_100	3.3	3.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**827**
Pseudomys fumeus / Smoky Mouse (Fauna)									
953_High_TCZ_100	69.6	69.6	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
953_Low_TCZ_100	27.9	27.9	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
								Subtotal	**2**

Tyto novaehollandiae / Masked Owl (Fauna)									
953_Veryhigh_TCZ_100	90.7	90.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
953_Veryhigh_ECZ_100	73.4	73.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_Veryhigh_HTZ_100	25.4	25.4	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
953_High_TCZ_100	69.6	69.6	6.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	220
953_High_ECZ_100	62.3	62.3	8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	250
953_High_HTZ_100	15.8	15.8	5.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	47
								Subtotal	**525**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029447	6699 Humelink Assessment - Bondo	22/06/2023
Assessor Name	Report Created	BAM Data version *
Simon Tweed	18/08/2023	61
Assessor Number	Assessment Type	BAM Case Status
BAAS17040	Major Projects	Finalised
Assessment Revision		Date Finalised
6		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
Diamond Firetail	Stagonopleura guttata	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion

Dusky Woodswallow	Artamus cyanopterus cyanopterus	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Eastern False Pipistrelle	Falsistrellus tasmaniensis	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Flame Robin	Petroica phoenicea	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion

Flame Robin	Petroica phoenicea	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Gang-gang Cockatoo	Callocephalon fimbriatum	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Little Eagle	Hieraaetus morphnoides	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion

Little Eagle	Hieraaetus morphnoides	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Masked Owl	Tyto novaehollandiae	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Powerful Owl	Ninox strenua	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Rosenberg's Goanna	Varanus rosenbergi	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Scarlet Robin	Petroica boodang	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion

Scarlet Robin	Petroica boodang	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Square-tailed Kite	Lophoictinia isura	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Varied Sittella	Daphoenositta chrysoptera	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion

Varied Sittella	Daphoenositta chrysoptera	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
White-throated Needletail	Hirundapus caudacutus	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion
		295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Yellow-bellied Glider	Petaurus australis	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Yellow-bellied Glider	Petaurus australis	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029447

Assessment name
6699 Humelink Assessment - Bondo

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

Assessment Type
Major Projects

BAM Case Status
Finalised

Assessment Revision
6

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones

1	285_Low_TCZ_100	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion	Low_TCZ_100	0.01	1	
2	285_Low_ECZ_100	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion	Low_ECZ_100	0.66	1	
3	285_Low_HTZ_100	285-Broad-leaved Sally grass - sedge woodland on valley flats and swamps in the NSW South Western Slopes Bioregion and adjoining South Eastern Highlands Bioregion	Low_HTZ_100	0.07	1	
4	295_Moderate_TCZ_100	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_TCZ_100	0.69	1	
5	295_Moderate_ECZ_100	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_ECZ_100	0.77	1	

6	295_Moderate_HTZ_100	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_HTZ_100	0.2	1	
7	295_Low_TCZ_100	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_TCZ_100	0.08	1	
8	295_Low_ECZ_100	295-Robertsons Peppermint - Broad-leaved Peppermint - Nortons Box - stringybark shrub-fern open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_ECZ_100	0.04	1	
9	296_Low_TCZ_100	296-Brittle Gum - peppermint open forest of the Woomargama to Tumut region, NSW South Western Slopes Bioregion	Low_TCZ_100	0.02	1	
10	299_Moderate_TCZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_TCZ_100	0.77	1	

11	299_Moderate_ECZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_ECZ_100	0.36	1	
12	299_Moderate_HTZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_HTZ_100	0.25	1	
13	299_Verylow_TCZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_TCZ_100	0.19	1	
14	299_Verylow_ECZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_ECZ_100	0.42	1	
15	299_Verylow_HTZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_HTZ_100	0.63	1	

16	953_Veryhigh_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Veryhigh_TCZ_100	0.16	1	
17	953_Veryhigh_ECZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Veryhigh_ECZ_100	0.03	1	
18	953_Veryhigh_HTZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Veryhigh_HTZ_100	0.07	1	
19	953_High_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_TCZ_100	9.63	3	
20	953_High_ECZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_ECZ_100	10.72	3	
21	953_High_HTZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_HTZ_100	7.76	3	

22	953_Low_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_TCZ_100	2.1	2	
23	953_Low_ECZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_ECZ_100	0.16	1	
24	953_Low_HTZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_HTZ_100	0.07	1	
25	953_Verylow_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Verylow_TCZ_100	2.56	2	
26	953_Verylow_ECZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Verylow_ECZ_100	0.23	1	
27	953_Verylow_HTZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Verylow_HTZ_100	0.19	1	

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029441

Proposal Name
6699 Humelink Assessment Bungonia

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
3

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered Ecological Community	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered Ecological Community	1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion

Species
Caladenia tessellata / Thick Lip Spider Orchid
Chalinolobus dwyeri / Large-eared Pied Bat
Solanum armourense / Solanum armourense
Pomaderris delicata / Delicate Pomaderris
Genoplesium superbum / Superb Midge Orchid
Mixophyes balbus / Stuttering Frog
Petrogale penicillata / Brush-tailed Rock-wallaby

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	0.4	9	0	9
870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	Not a TEC	1.7	40	0	40
1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Not a TEC	3.2	101	0	101

1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	0.4	1	0	1
1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	0.3	11	0	11
1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Not a TEC	12.2	9	157	166
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	16.0	373	0	373

283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	283_Moderate_TCZ_100	Yes	6	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	283_Moderate_ ECZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	283_Low_TCZ_100	Yes	2	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Central Gorge Dry Sclerophyll Forests This includes PCT's: 778, 821, 832, 840, 858, 860, 870, 871, 873, 3081, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3490, 3491, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3509	Central Gorge Dry Sclerophyll Forests <50%	870_Veryhigh_ TCZ_100	Yes	25	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Central Gorge Dry Sclerophyll Forests This includes PCT's: 778, 821, 832, 840, 858, 860, 870, 871, 873, 3081, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3490, 3491, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3509	Central Gorge Dry Sclerophyll Forests <50%	870_Veryhigh_ ECZ_100	Yes	14	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Central Gorge Dry Sclerophyll Forests This includes PCT's: 778, 821, 832, 840, 858, 860, 870, 871, 873, 3081, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3490, 3491, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3509	Central Gorge Dry Sclerophyll Forests <50%	870_Veryhigh_ HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryhigh_TCZ_100	Yes	71	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryhigh_ECZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryhigh_HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_TCZ_100	Yes	7	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_ECZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_100	Yes	13	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_ECZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_TCZ_100	Yes	4	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Moderate_TCZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Verylow_TCZ_100	Yes	0	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Verylow_ECZ_100	Yes	0	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Verylow_ECZ_5	Yes	0	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1107_High_TCZ_100	Yes	10	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1107_High_HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion

1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_High_TCZ_100	No	106	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_High_ECZ_100	No	48	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_High_HTZ_100	No	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Moderate_TCZ_100	Yes	5	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Moderate_ECZ_100	Yes	3	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Moderate_HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Low_TCZ_100	No	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Low_ECZ_100	No	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Verylow_ TCZ_100	No	0	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Verylow_ ECZ_100	No	0	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native	-	1330_Veryhigh _TCZ_100	Yes	61	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges.

	Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	1330_Veryhigh_ECZ_100	Yes	2	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	1330_Veryhigh_HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	1330_Low_TCZ	Yes	307	Bungonia, Bateman, Burragorang,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307,		_100			Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	1330_Low_ECZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	1330_Low_HTZ_100	Yes	1	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	1330_Verylow_ECZ_5	No	0	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia bynoeana / Bynoe's Wattle	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100**	1.2	40.00

Acacia flocktoniae / Flockton Wattle	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100**	14.3	309.00
Aprasia parapulchella / Pink-tailed Legless Lizard	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Low_TCZ_100**	6.0	130.00
Baloskion longipes / Dense Cord-rush	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100**	1.2	40.00

Bossiaea oligosperma / Few-seeded Bossiaea	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100**	1.2	41.00
Caladenia tessellata / Thick Lip Spider Orchid	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100**	16.0	550.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100,**	14.8	370.00

	283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100		

Calyptorhynchus lathami / Glossy Black-Cockatoo	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1097_Moderate_TCZ_100,**	12.2	301.00

	1107_High_TCZ_100, 1107_High_HTZ_100		
Cercartetus nanus / Eastern Pygmy-possum	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1107_High_TCZ_100**	5.2	147.00

Chalinolobus dwyeri / Large-eared Pied Bat	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100**	7.7	316.00

Delma impar / Striped Legless Lizard	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5**	16.0	226.00
Dillwynia glaucula / Michelago Parrot-pea	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100**	1.7	61.00

Diuris aequalis / Buttercup Doubletail	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1097_Moderate_TCZ_100, 1097_Verylow_TCZ_100, 1097_Verylow_ECZ_100, 1097_Verylow_ECZ_5**	3.6	120.00
Eucalyptus macarthurii / Paddys River Box, Camden Woollybutt	**1330_Veryhigh_TCZ_100, 1330_Low_TCZ_100, 1097_Verylow_TCZ_100**	18.0	36.00

Genoplesium superbum / Superb Midge Orchid	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1150_Verylow_TCZ_100, 1150_Verylow_ECZ_100**	8.8	237.00

Hieraaetus morphnoides / Little Eagle	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100,**	19.2	349.00

	283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100		
Keyacris scurra / Key's Matchstick Grasshopper	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Low_TCZ_100**	16.4	308.00
Kunzea cambagei / Cambage Kunzea	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1150_Verylow_TCZ_100, 1150_Verylow_ECZ_100**	12.2	220.00

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100, 1330_Veryhigh_TCZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 1097_Moderate_TCZ_100, 1097_Verylow_TCZ_100, 1097_Verylow_ECZ_100, 1097_Verylow_ECZ_5**	1065.0	2130.00

Mixophyes balbus / Stuttering Frog	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	13.8	421.00
Myotis macropus / Southern Myotis	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	2.1	68.00

Ninox connivens / Barking Owl	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100,**	14.8	372.00

	283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100		

Ninox strenua / Powerful Owl	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100,**	14.8	372.00

	283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100		
Persoonia mollis subsp. revoluta / Persoonia mollis subsp. revoluta	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	8.0	151.00

Petauroides volans / Southern Greater Glider	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100,**	14.1	361.00

	1107_High_HTZ_100		

Petaurus norfolcensis / Squirrel Glider	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100,**	14.6	361.00

	283_Moderate_ECZ_100		
Petrogale penicillata / Brush-tailed Rock-wallaby	**1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	1.1	43.00
Petroica rodinogaster / Pink Robin	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	12.2	229.00

Phascolarctos cinereus / Koala	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100,**	19.4	468.00

	283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100		
Phyllota humifusa / Dwarf Phyllota	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	11.4	212.00
Pomaderris cotoneaster / Cotoneaster Pomaderris	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	11.7	215.00
Pomaderris delicata / Delicate Pomaderris	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	8.0	225.00
Solanum armourense / Solanum armourense	**1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100,**	0.5	21.00

	1093_Moderate_TCZ_100, 1093_Low_TCZ_100		
Swainsona sericea / Silky Swainson-pea	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 283_Moderate_TCZ_100, 283_Low_TCZ_100**	11.2	218.00
Thesium australe / Austral Toadflax	**1330_Veryhigh_TCZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5**	15.0	205.00

Tyto novaehollandiae / Masked Owl	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1097_Moderate_TCZ_100,**	14.7	369.00

	1107_High_TCZ_100, 1107_High_HTZ_100		

Credit Retirement Options

Like-for-like credit retirement options

Acacia bynoeana / Bynoe's Wattle	Spp	IBRA subregion
	Acacia bynoeana / Bynoe's Wattle	Any in NSW
Acacia flocktoniae / Flockton Wattle	Spp	IBRA subregion
	Acacia flocktoniae / Flockton Wattle	Any in NSW
Aprasia parapulchella / Pink-tailed Legless Lizard	Spp	IBRA subregion
	Aprasia parapulchella / Pink-tailed Legless Lizard	Any in NSW
Baloskion longipes / Dense Cord-rush	Spp	IBRA subregion
	Baloskion longipes / Dense Cord-rush	Any in NSW
Bossiaea oligosperma / Few-seeded Bossiaea	Spp	IBRA subregion
	Bossiaea oligosperma / Few-seeded Bossiaea	Any in NSW
Caladenia tessellata / Thick Lip Spider Orchid	Spp	IBRA subregion

	Caladenia tessellata / Thick Lip Spider Orchid	Any in NSW
Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calyptorhynchus lathami / Glossy Black-Cockatoo	Spp	IBRA subregion
	Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Chalinolobus dwyeri / Large-eared Pied Bat	Spp	IBRA subregion
	Chalinolobus dwyeri / Large-eared Pied Bat	Any in NSW
Delma impar / Striped Legless Lizard	Spp	IBRA subregion
	Delma impar / Striped Legless Lizard	Any in NSW
Dillwynia glaucula / Michelago Parrot-pea	Spp	IBRA subregion
	Dillwynia glaucula / Michelago Parrot-pea	Any in NSW

Diuris aequalis / Buttercup Doubletail	Spp	IBRA subregion
	Diuris aequalis / Buttercup Doubletail	Any in NSW
Eucalyptus macarthurii / Paddys River Box, Camden Woollybutt	Spp	IBRA subregion
	Eucalyptus macarthurii / Paddys River Box, Camden Woollybutt	Any in NSW
Genoplesium superbum / Superb Midge Orchid	Spp	IBRA subregion
	Genoplesium superbum / Superb Midge Orchid	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Keyacris scurra / Key's Matchstick Grasshopper	Spp	IBRA subregion
	Keyacris scurra / Key's Matchstick Grasshopper	Any in NSW
Kunzea cambagei / Cambage Kunzea	Spp	IBRA subregion
	Kunzea cambagei / Cambage Kunzea	Any in NSW
Leucochrysum albicans subsp. tricolor / Hoary Sunray	Spp	IBRA subregion

	Leucochrysum albicans subsp. tricolor / Hoary Sunray	Any in NSW
Mixophyes balbus / Stuttering Frog	Spp	IBRA subregion
	Mixophyes balbus / Stuttering Frog	Any in NSW
Myotis macropus / Southern Myotis	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Ninox connivens / Barking Owl	Spp	IBRA subregion
	Ninox connivens / Barking Owl	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Persoonia mollis subsp. revoluta / Persoonia mollis subsp. revoluta	Spp	IBRA subregion
	Persoonia mollis subsp. revoluta / Persoonia mollis subsp. revoluta	Any in NSW
Petauroides volans / Southern Greater Glider	Spp	IBRA subregion
	Petauroides volans / Southern Greater Glider	Any in NSW

Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Petrogale penicillata / Brush-tailed Rock-wallaby	Spp	IBRA subregion
	Petrogale penicillata / Brush-tailed Rock-wallaby	Any in NSW
Petroica rodinogaster / Pink Robin	Spp	IBRA subregion
	Petroica rodinogaster / Pink Robin	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW
Phyllota humifusa / Dwarf Phyllota	Spp	IBRA subregion
	Phyllota humifusa / Dwarf Phyllota	Any in NSW
Pomaderris cotoneaster / Cotoneaster Pomaderris	Spp	IBRA subregion
	Pomaderris cotoneaster / Cotoneaster Pomaderris	Any in NSW
Pomaderris delicata / Delicate Pomaderris	Spp	IBRA subregion

	Pomaderris delicata / Delicate Pomaderris	Any in NSW
Solanum armourense / Solanum armourense	Spp	IBRA subregion
	Solanum armourense / Solanum armourense	Any in NSW
Swainsona sericea / Silky Swainson-pea	Spp	IBRA subregion
	Swainsona sericea / Silky Swainson-pea	Any in NSW
Thesium australe / Austral Toadflax	Spp	IBRA subregion
	Thesium australe / Austral Toadflax	Any in NSW
Tyto novaehollandiae / Masked Owl	Spp	IBRA subregion
	Tyto novaehollandiae / Masked Owl	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029441

Proposal Name
6699 Humelink Assessment Bungonia

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Name(s)
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
3

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered Ecological Community	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered Ecological Community	1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion

Species
Caladenia tessellata / Thick Lip Spider Orchid
Chalinolobus dwyeri / Large-eared Pied Bat
Solanum armourense / Solanum armourense
Pomaderris delicata / Delicate Pomaderris
Genoplesium superbum / Superb Midge Orchid
Mixophyes balbus / Stuttering Frog
Petrogale penicillata / Brush-tailed Rock-wallaby

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

BAM Biodiversity Credit Report (Variations)

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	0.4	9	0	9.00
870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	Not a TEC	1.7	40	0	40.00
1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Not a TEC	3.2	101	0	101.00
1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	0.4	1	0	1.00
1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	0.3	11	0	11.00
1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Not a TEC	12.2	9	157	166.00
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	16.0	373	0	373.00

283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	283_Moderate_TCZ_100	Yes	6	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	283_Moderate_ECZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	283_Low_TCZ_100	Yes	2	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Central Gorge Dry Sclerophyll Forests This includes PCT's: 778, 821, 832, 840, 858, 860, 870, 871, 873, 3081, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3490, 3491, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3509	Central Gorge Dry Sclerophyll Forests <50%	870_Veryhigh_TCZ_100	Yes	25	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Central Gorge Dry Sclerophyll Forests This includes PCT's: 778, 821, 832, 840, 858, 860, 870, 871, 873, 3081, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3490, 3491, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3509	Central Gorge Dry Sclerophyll Forests <50%	870_Veryhigh_ECZ_100	Yes	14	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Central Gorge Dry Sclerophyll Forests This includes PCT's: 778, 821, 832, 840, 858, 860, 870, 871, 873, 3081, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3486, 3487, 3488, 3489, 3490, 3491, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3509	Central Gorge Dry Sclerophyll Forests <50%	870_Veryhigh_HTZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	870_Veryhigh_TCZ_100	Yes (including artificial)	25	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	870_Veryhigh_ECZ_100	Yes (including artificial)	14	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	870_Veryhigh_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Very high_TCZ_100	Yes	71	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Very high_ECZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Very high_HTZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_TCZ_100	Yes	7	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_ECZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_HTZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_100	Yes	13	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_ECZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_TCZ_100	Yes	4	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Very high_TCZ_100	Yes (including artificial)	71	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Very high_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Very high_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_TCZ_100	Yes (including artificial)	7	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_TCZ_100	Yes (including artificial)	13	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_TCZ_100	Yes (including artificial)	4	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Moderate_TCZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Verylow_TCZ_100	Yes	0	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Verylow_ECZ_100	Yes	0	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1097_Veryl ow_ECZ_5	Yes	0	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 1	1097_Mod erate_TCZ_ 100	Yes (includi ng artificia l)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 1	1097_Veryl ow_TCZ_10 0	Yes (includi ng artificia l)	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 1	1097_Veryl ow_ECZ_10 0	Yes (includi ng artificia l)	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 1	1097_Veryl ow_ECZ_5	Yes (includi ng artificia l)	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1107_High _TCZ_100	Yes	10	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	1107_High _HTZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region

	Wet Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1107_High_TCZ_100	Yes (including artificial)	10	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Wet Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1107_High_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_High_TCZ_100	No	106	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_High_ECZ_100	No	48	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_High_HTZ_100	No	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Moderate_TCZ_100	Yes	5	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Moderate_ECZ_100	Yes	3	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Moderate_HTZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Low_TCZ_100	No	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Low_ECZ_100	No	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Veryllow_TCZ_100	No	0	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 716, 879, 891, 892, 901, 932, 946, 1082, 1084, 1146, 1147, 1148, 1149, 1150, 1151, 1154, 1155, 1157, 1158, 1160, 1161, 1322, 1338, 1339, 1340, 3300, 3492, 3642, 3643, 3644, 3645, 3646, 3648, 3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668	South East Dry Sclerophyll Forests <50%	1150_Veryl ow_ECZ_10 0	No	0	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_High _TCZ_100	No	106	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_High _ECZ_100	No	48	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_High_HTZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Moderate_TCZ_100	Yes (including artificial)	5	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Moderate_ECZ_100	Yes (including artificial)	3	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Low_TCZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Veryl ow_TCZ_10 0	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	1150_Veryl ow_ECZ_10 0	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	1330_Very high_TCZ_1 00	Yes	61	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	1330_Very high_ECZ_100	Yes	2	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy	-	1330_Very high_HTZ_	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-

	Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394,		100			Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332,	-	1330_Low_TCZ_100	Yes	307	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	1330_Low_ECZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	1330_Low_HTZ_100	Yes	1	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	1330_Veryl ow_ECZ_5	No	0	Bungonia,Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia bynoeana / Bynoe's Wattle	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100**	1.2	40.00

Acacia flocktoniae / Flockton Wattle	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100**	14.3	309.00
Aprasia parapulchella / Pink-tailed Legless Lizard	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Low_TCZ_100**	6.0	130.00
Baloskion longipes / Dense Cord-rush	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100**	1.2	40.00

Bossiaea oligosperma / Few-seeded Bossiaea	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100**	1.2	41.00
Caladenia tessellata / Thick Lip Spider Orchid	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100**	16.0	550.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	14.8	370.00

Calyptorhynchus lathami / Glossy Black-Cockatoo	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	12.2	301.00

Cercartetus nanus / Eastern Pygmy-possum	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1107_High_TCZ_100**	5.2	147.00

Chalinolobus dwyeri / Large-eared Pied Bat	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100**	7.7	316.00
Delma impar / Striped Legless Lizard	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5**	16.0	226.00

Dillwynia glaucula / Michelago Parrot-pea	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100**	1.7	61.00
Diuris aequalis / Buttercup Doubletail	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1097_Moderate_TCZ_100, 1097_Verylow_TCZ_100, 1097_Verylow_ECZ_100, 1097_Verylow_ECZ_5**	3.6	120.00
Eucalyptus macarthurii / Paddys River Box, Camden Woollybutt	**1330_Veryhigh_TCZ_100, 1330_Low_TCZ_100, 1097_Verylow_TCZ_100**	18.0	36.00

Genoplesium superbum / Superb Midge Orchid	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1150_Verylow_TCZ_100, 1150_Verylow_ECZ_100**	8.8	237.00

Hieraaetus morphnoides / Little Eagle	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	19.2	349.00

Keyacris scurra / Key's Matchstick Grasshopper	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Low_TCZ_100**	16.4	308.00
Kunzea cambagei / Cambage Kunzea	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1150_Verylow_TCZ_100, 1150_Verylow_ECZ_100**	12.2	220.00

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**1093_Veryhigh_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100, 1330_Veryhigh_TCZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 1097_Moderate_TCZ_100, 1097_Verylow_TCZ_100, 1097_Verylow_ECZ_100, 1097_Verylow_ECZ_5**	1065.0	2130.00
Mixophyes balbus / Stuttering Frog	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	13.8	421.00

Myotis macropus / Southern Myotis	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	2.1	68.00

Ninox connivens / Barking Owl	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	14.8	372.00

Ninox strenua / Powerful Owl	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	14.8	372.00

Persoonia mollis subsp. revoluta / Persoonia mollis subsp. revoluta	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	8.0	151.00

Petauroides volans / Southern Greater Glider	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	14.1	361.00

Petaurus norfolcensis / Squirrel Glider	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100**	14.6	361.00

Petrogale penicillata / Brush-tailed Rock-wallaby	**1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	1.1	43.00
Petroica rodinogaster / Pink Robin	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	12.2	229.00

Phascolarctos cinereus / Koala	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100,**	19.4	468.00

	1107_High_HTZ_100		
Phyllota humifusa / Dwarf Phyllota	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	11.4	212.00
Pomaderris cotoneaster / Cotoneaster Pomaderris	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	11.7	215.00
Pomaderris delicata / Delicate Pomaderris	**1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100**	8.0	225.00
Solanum armourense / Solanum armourense	**1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100**	0.5	21.00

Swainsona sericea / Silky Swainson-pea	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5, 283_Moderate_TCZ_100, 283_Low_TCZ_100**	11.2	218.00
Thesium australe / Austral Toadflax	**1330_Veryhigh_TCZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_ECZ_5**	15.0	205.00

Tyto novaehollandiae / Masked Owl	**870_Veryhigh_TCZ_100, 870_Veryhigh_ECZ_100, 870_Veryhigh_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1150_High_TCZ_100, 1150_High_ECZ_100, 1150_High_HTZ_100, 1150_Moderate_TCZ_100, 1150_Moderate_ECZ_100, 1150_Moderate_HTZ_100, 1150_Low_TCZ_100, 1150_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1097_Moderate_TCZ_100, 1107_High_TCZ_100, 1107_High_HTZ_100**	14.7	369.00

Credit Retirement Options

Like-for-like options

Acacia bynoeana/ Bynoe's Wattle	Spp		IBRA region
	Acacia bynoeana/Bynoe's Wattle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Acacia flocktoniae/ Flockton Wattle	Spp		IBRA region
	Acacia flocktoniae/Flockton Wattle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Aprasia parapulchella/ Pink-tailed Legless Lizard	Spp	IBRA region	
	Aprasia parapulchella/Pink-tailed Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Baloskion longipes/ Dense Cord-rush	Spp	IBRA region	
	Baloskion longipes/Dense Cord-rush	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Bossiaea oligosperma/ Few-seeded Bossiaea	Spp		IBRA region
	Bossiaea oligosperma/Few-seeded Bossiaea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Caladenia tessellata/ Thick Lip Spider Orchid	Spp		IBRA region
	Caladenia tessellata/Thick Lip Spider Orchid		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp		IBRA region
	Callocephalon fimbriatum/Gang-gang Cockatoo		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Calyptorhynchus lathami/ Glossy Black-Cockatoo	Spp	IBRA region	
	Calyptorhynchus lathami/Glossy Black-Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cercartetus nanus/ Eastern Pygmy-possum	Spp	IBRA region	
	Cercartetus nanus/Eastern Pygmy-possum	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Chalinolobus dwyeri/ Large-eared Pied Bat	Spp	IBRA region	
	Chalinolobus dwyeri/Large-eared Pied Bat	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Delma impar/ Striped Legless Lizard	Spp		IBRA region
	Delma impar/Striped Legless Lizard		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dillwynia glaucula/ Michelago Parrot-pea	Spp		IBRA region
	Dillwynia glaucula/Michelago Parrot-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Diuris aequalis/ Buttercup Doubletail	Spp	IBRA region	
	Diuris aequalis/Buttercup Doubletail	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Eucalyptus macarthurii/ Paddys River Box, Camden Woollybutt	Spp	IBRA region	
	Eucalyptus macarthurii/Paddys River Box, Camden Woollybutt	Any in NSW	

Eucalyptus macarthurii/ Paddys River Box, Camden Woollybutt	**Variation options**		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Genoplesium superbum/ Superb Midge Orchid	Spp		IBRA region
	Genoplesium superbum/Superb Midge Orchid		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Hieraaetus morphnoides/ Little Eagle	Spp	IBRA region	
	Hieraaetus morphnoides/Little Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Keyacris scurra/ Key's Matchstick Grasshopper	Spp	IBRA region	
	Keyacris scurra/Key's Matchstick Grasshopper	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Kunzea cambagei/ Cambage Kunzea	Spp	IBRA region	
	Kunzea cambagei/Cambage Kunzea	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Leucochrysum albicans subsp. tricolor/ Hoary Sunray	Spp		IBRA region
	Leucochrysum albicans subsp. tricolor/Hoary Sunray		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Mixophyes balbus/ Stuttering Frog	Spp		IBRA region
	Mixophyes balbus/Stuttering Frog		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Myotis macropus/ Southern Myotis	Spp	IBRA region	
	Myotis macropus/Southern Myotis	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox connivens/ Barking Owl	Spp	IBRA region	
	Ninox connivens/Barking Owl	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox strenua/ Powerful Owl	Spp	IBRA region	
	Ninox strenua/Powerful Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Persoonia mollis subsp. revoluta/ Persoonia mollis subsp. revoluta	Spp		IBRA region
	Persoonia mollis subsp. revoluta/Persoonia mollis subsp. revoluta		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petauroides volans/ Southern Greater Glider	Spp		IBRA region
	Petauroides volans/Southern Greater Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	
	Petaurus norfolcensis/Squirrel Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petrogale penicillata/ Brush-tailed Rock-wallaby	Spp	IBRA region	
	Petrogale penicillata/Brush-tailed Rock-wallaby	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petroica rodinogaster/ Pink Robin	Spp	IBRA region	
	Petroica rodinogaster/Pink Robin	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Phascolarctos cinereus/ Koala	Spp		IBRA region
	Phascolarctos cinereus/Koala		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phyllota humifusa/ Dwarf Phyllota	Spp		IBRA region
	Phyllota humifusa/Dwarf Phyllota		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pomaderris cotoneaster/ Cotoneaster Pomaderris	Spp	IBRA region	
	Pomaderris cotoneaster/Cotoneaster Pomaderris	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pomaderris delicata/ Delicate Pomaderris	Spp	IBRA region	

	Pomaderris delicata/Delicate Pomaderris *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*		Any in NSW
Solanum armourense/ Solanum armourense	Spp		IBRA region
	Solanum armourense/Solanum armourense		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Swainsona sericea/ Silky Swainson-pea	Spp		IBRA region
	Swainsona sericea/Silky Swainson-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act	IBRA region

		shown below	
	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Thesium australe/ Austral Toadflax	Spp	IBRA region	
	Thesium australe/Austral Toadflax	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tyto novaehollandiae/ Masked Owl	Spp	IBRA region	
	Tyto novaehollandiae/Masked Owl	Any in NSW	

Tyto novaehollandiae/ Masked Owl	**Variation options**		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Bungonia, Bateman, Burragorang, Crookwell, Ettrema, Kanangra, Kybeyan-Gourock, Monaro and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/21/00029441	Proposal Name 6699 Humelink Assessment Bungonia	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 3	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Acacia bynoeana Bynoe's Wattle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Acacia clunies-rossiae Kanangra Wattle	No (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Acacia flocktoniae Flockton Wattle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Aprasia parapulchella Pink-tailed Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Baloskion longipes Dense Cord-rush	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Bossiaea oligosperma Few-seeded Bossiaea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia tessellata Thick Lip Spider Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed)	☑ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☑ Dec ☐ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo	Yes (surveyed)	☑ Jan ☑ Feb ☑ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Cercartetus nanus Eastern Pygmy-possum	Yes (surveyed)	☑ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☑ Dec ☐ Survey month outside the specified months?
Chalinolobus dwyeri Large-eared Pied Bat	Yes (surveyed)	☑ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Delma impar Striped Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Dillwynia glaucula Michelago Parrot-pea	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris aequalis Buttercup Doubletail	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus macarthurii Paddys River Box, Camden Woollybutt	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Genoplesium superbum Superb Midge Orchid	Yes (surveyed)	☐ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hakea dohertyi Kowmung Hakea	No (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Keyacris scurra Key's Matchstick Grasshopper	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Kunzea cambagei Cambage Kunzea	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans subsp. tricolor Hoary Sunray	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Mixophyes balbus Stuttering Frog	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Ninox connivens Barking Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Persoonia mollis subsp. revoluta Persoonia mollis subsp. revoluta	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Southern Greater Glider	Yes (surveyed)	☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?

Petaurus norfolcensis Squirrel Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petrogale penicillata Brush-tailed Rock-wallaby	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phyllota humifusa Dwarf Phyllota	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Pomaderris delicata Delicate Pomaderris	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Solanum armourense Solanum armourense	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Thesium australe Austral Toadflax	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Tyto novaehollandiae Masked Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Booroolong Frog	Litoria booroolongensis	Species is vagrant
Broad-headed Snake	Hoplocephalus bungaroides	Species is vagrant
Giant Burrowing Frog	Heleioporus australiacus	Refer to BAR
Grey-headed Flying-fox	Pteropus poliocephalus	Habitat constraints
Large Bent-winged Bat	Miniopterus orianae oceanensis	Refer to BAR
Little Bent-winged Bat	Miniopterus australis	Habitat constraints
Long-nosed Potoroo	Potorous tridactylus	Species is vagrant
Matted Bush-pea	Pultenaea pedunculata	Refer to BAR
Nerriga Grevillea	Grevillea renwickiana	Refer to BAR
Red-crowned Toadlet	Pseudophryne australis	Species is vagrant
Regent Honeyeater	Anthochaera phrygia	Habitat constraints
Sooty Owl	Tyto tenebricosa	Refer to BAR
Southern Brown Bandicoot (eastern)	Isoodon obesulus obesulus	Species is vagrant
Swift Parrot	Lathamus discolor	Habitat constraints
White-bellied Sea-Eagle	Haliaeetus leucogaster	Habitat constraints
White-footed Dunnart	Sminthopsis leucopus	Species is vagrant

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029441

Proposal Name
6699 Humelink Assessment Bungonia

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
3

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits

Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion												
1	283_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	40.2	40.2	0.23	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	6

2	283_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	40.2	28.7	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

3	283_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	27.3	27.3	0.14	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2
											Subtotal	**9**
Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion												
4	870_Veryhigh_TCZ_100	Not a TEC	81.3	81.3	0.81	PCT Cleared - 10%	High Sensitivity to Gain			1.50		25
5	870_Veryhigh_ECZ_100	Not a TEC	81.3	57.7	0.65	PCT Cleared - 10%	High Sensitivity to Gain			1.50		14
6	870_Veryhigh_HTZ_100	Not a TEC	81.3	14.4	0.23	PCT Cleared - 10%	High Sensitivity to Gain			1.50		1

											Subtotal	40
Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion												
7	1093_Very high_TCZ_100	Not a TEC	83.6	83.6	1.9	PCT Cleared - 61%	High Sensitivity to Gain			1.75		71
8	1093_Very high_ECZ_100	Not a TEC	83.6	69.9	0.01	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
9	1093_Very high_HTZ_100	Not a TEC	83.6	25.5	0.02	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
10	1093_High_TCZ_100	Not a TEC	73.3	73.3	0.22	PCT Cleared - 61%	High Sensitivity to Gain			1.75		7
11	1093_High_ECZ_100	Not a TEC	73.3	51.8	0.06	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
12	1093_High_HTZ_100	Not a TEC	73.3	5.3	0.1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
13	1093_Moderate_TCZ_100	Not a TEC	53.2	53.2	0.57	PCT Cleared - 61%	High Sensitivity to Gain			1.75		13
14	1093_Moderate_ECZ_100	Not a TEC	53.2	42.2	0.01	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1

15	1093_Low_TCZ_100	Not a TEC	37.4	37.4	0.22	PCT Cleared - 61%	High Sensitivity to Gain			1.75		4
16	1093_Low_ECZ_100	Not a TEC	37.4	33.0	0.08	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
											Subtotal	**101**
Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion												
17	1097_Moderate_TCZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	53.7	53.7	0.01	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	1
18	1097_Very low_TCZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	14.8	14.8	0.3	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	0

19	1097_Very low_ECZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	14.8	14.8	0.02	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	0
20	1097_Very low_ECZ_5	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	14.8	14.8	0.02	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	0
											Subtotal	**1**
River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion												
21	1107_High_TCZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	66.3	66.3	0.3	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	10

22	1107_High_HTZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	66.3	8.1	0.01	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	1
											Subtotal	**11**
Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion												
23	1150_High_TCZ_100	Not a TEC	45.2	45.2	6.2	PCT Cleared - 40%	High Sensitivity to Gain			1.50		106
24	1150_High_ECZ_100	Not a TEC	45.2	34.8	3.6	PCT Cleared - 40%	High Sensitivity to Gain			1.50		48
25	1150_High_HTZ_100	Not a TEC	45.2	0.0	1.1	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
26	1150_Moderate_TCZ_100	Not a TEC	37.7	37.7	0.32	PCT Cleared - 40%	High Sensitivity to Gain			1.50		5
27	1150_Moderate_ECZ_100	Not a TEC	37.7	27.3	0.3	PCT Cleared - 40%	High Sensitivity to Gain			1.50		3

28	1150_Moderate_HTZ_100	Not a TEC	37.7	3.2	0.05	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
29	1150_Low_TCZ_100	Not a TEC	26.5	26.5	0.09	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
30	1150_Low_ECZ_100	Not a TEC	26.5	24.2	0.14	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
31	1150_Very low_TCZ_100	Not a TEC	4.8	4.8	0.22	PCT Cleared - 40%	High Sensitivity to Gain			1.50		0
32	1150_Very low_ECZ_100	Not a TEC	4.8	2.1	0.06	PCT Cleared - 40%	High Sensitivity to Gain			1.50		0
											Subtotal	**166**

Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion												
33	1330_Very high_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	81.2	81.2	1.2	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	61

34	1330_Very high_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	81.2	57.4	0.05	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	2

35	1330_Very high_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	81.2	16.8	0.04	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	1

36	1330_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	34.2	34.2	14.4	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	307

37	1330_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	34.2	4.7	0.29	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	1

38	1330_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	34.2	0.9	0.02	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	1

39	1330_Very low_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	0.5	0.02	PCT Cleared - 94%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	0
											Subtotal	**373**
											Total	**701**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits

Acacia bynoeana / Bynoe's Wattle (Flora)									
1093_Veryhigh_TCZ_100	83.6	83.6	0.53	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	22
1093_High_TCZ_100	73.3	73.3	0.1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	4
1093_High_ECZ_100	51.8	51.8	0.02	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	1
1093_High_HTZ_100	5.3	5.3	0.06	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.44	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	12
								Subtotal	**40**
Acacia flocktoniae / Flockton Wattle (Flora)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	33

870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	19
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1150_High_TCZ_100	45.2	45.2	6.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	141
1150_High_ECZ_100	34.8	34.8	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	63
1150_High_HTZ_100	0.0	0.0	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6

1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Veryhigh_TCZ_100	81.2	81.2	0.96	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	39
1330_Veryhigh_ECZ_100	57.4	57.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**309**
Aprasia parapulchella / Pink-tailed Legless Lizard (Fauna)									
1330_Veryhigh_TCZ_100	81.2	81.2	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	43

1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	34.2	34.2	4.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	76
1330_Low_ECZ_100	4.7	4.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_HTZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_5	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_Moderate_TCZ_100	40.2	40.2	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4

283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_Low_TCZ_100	27.3	27.3	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**130**
Baloskion longipes / Dense Cord-rush (Flora)									
1093_Veryhigh_TCZ_100	83.6	83.6	0.53	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	22
1093_High_TCZ_100	73.3	73.3	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	4
1093_High_ECZ_100	51.8	51.8	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	1
1093_High_HTZ_100	5.3	5.3	0.06	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	1

1093_Moderate_TCZ_100	53.2	53.2	0.44	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	12
								Subtotal	**40**
Bossiaea oligosperma / Few-seeded Bossiaea (Flora)									
1093_Veryhigh_TCZ_100	83.6	83.6	0.53	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	22
1093_High_TCZ_100	73.3	73.3	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	4
1093_High_ECZ_100	51.8	51.8	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	1
1093_High_HTZ_100	5.3	5.3	0.06	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.44	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	12

1093_Low_TCZ_100	37.4	37.4	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Vulnerable	False	1
								Subtotal	**41**
Caladenia tessellata / Thick Lip Spider Orchid (Flora)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	49
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	28
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	2
1093_Veryhigh_TCZ_100	83.6	83.6	0.92	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	58

1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1093_High_TCZ_100	73.3	73.3	0.15	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	8
1093_High_ECZ_100	51.8	51.8	0.02	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1093_High_HTZ_100	5.3	5.3	0.07	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1093_Moderate_TCZ_100	53.2	53.2	0.45	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	18

1093_Moderate_ECZ_100	42.2	42.2	0.01	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1150_High_TCZ_100	45.2	45.2	6.2	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	212
1150_High_ECZ_100	34.8	34.8	3.6	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	95
1150_High_HTZ_100	0.0	0.0	1.1	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	9
1150_Moderate_ECZ_100	27.3	27.3	0.3	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	6

1150_Moderate_HTZ_100	3.2	3.2	0.05	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1330_Veryhigh_TCZ_100	81.2	81.2	0.96	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	58
1330_Veryhigh_ECZ_100	57.4	57.4	0.01	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
								Subtotal	**550**
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	19
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2

1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	68
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	14

1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1150_High_TCZ_100	45.2	45.2	4.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	104
1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6

1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
1330_Veryhigh_TCZ_100	81.2	81.2	0.91	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	37
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

1330_Low_TCZ_100	34.2	34.2	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	10
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
283_Moderate_TCZ_100	40.2	40.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	9
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
								Subtotal	**370**

Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.48	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	20
870_Veryhigh_ECZ_100	57.7	57.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	9
870_Veryhigh_HTZ_100	14.4	14.4	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	67
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	8

1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1150_High_TCZ_100	45.2	45.2	4.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	97

1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2

1330_Veryhigh_TCZ_100	81.2	81.2	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	23
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	34.2	34.2	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	4.7	4.7	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	9

1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**301**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
1093_Veryhigh_TCZ_100	83.6	83.6	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	59
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7

1093_High_ECZ_100	51.8	51.8	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_High_HTZ_100	5.3	5.3	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1150_High_TCZ_100	45.2	45.2	0.96	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	22
1150_High_ECZ_100	34.8	34.8	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
1150_High_HTZ_100	0.0	0.0	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1330_Veryhigh_TCZ_100	81.2	81.2	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11
1330_Veryhigh_ECZ_100	57.4	57.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	40.2	40.2	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
283_Moderate_ECZ_100	28.7	28.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1107_High_TCZ_100	66.3	66.3	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2

								Subtotal	147
Chalinolobus dwyeri / Large-eared Pied Bat (Fauna)									
1093_Veryhigh_TCZ_100	83.6	83.6	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	121
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	12
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1

1093_Moderate_TCZ_100	53.2	53.2	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	23
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	3
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	2
1150_High_TCZ_100	45.2	45.2	2.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	70
1150_High_ECZ_100	34.8	34.8	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	26
1150_High_HTZ_100	0.0	0.0	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	0

1330_Veryhigh_TCZ_100	81.2	81.2	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	33
1330_Veryhigh_ECZ_100	57.4	57.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
1330_Low_TCZ_100	34.2	34.2	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	8
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
283_Moderate_TCZ_100	40.2	40.2	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	7
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1

1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	True	1
								Subtotal	**316**
Delma impar / Striped Legless Lizard (Fauna)									
1330_Veryhigh_TCZ_100	81.2	81.2	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	37
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	34.2	34.2	14.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	184

1330_Low_ECZ_100	4.7	4.7	0.29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_HTZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_5	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**226**
Dillwynia glaucula / Michelago Parrot-pea (Flora)									
1093_Veryhigh_TCZ_100	83.6	83.6	0.92	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	38
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1

1093_High_TCZ_100	73.3	73.3	0.15	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
1093_High_ECZ_100	51.8	51.8	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1093_High_HTZ_100	5.3	5.3	0.07	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.45	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	12
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1093_Low_TCZ_100	37.4	37.4	0.08	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**61**

Diuris aequalis / Buttercup Doubletail (Flora)									
1093_Veryhigh_TCZ_100	83.6	83.6	1.9	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	81
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	8
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	2

1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.57	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Low_TCZ_100	37.4	37.4	0.22	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	4
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1

1097_Verylow_TCZ_100	14.8	14.8	0.3	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	2
1097_Verylow_ECZ_100	14.8	14.8	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1097_Verylow_ECZ_5	14.8	14.8	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
								Subtotal	**120**
Eucalyptus macarthurii / Paddys River Box, Camden Woollybutt (Flora)									
1330_Veryhigh_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	2
1330_Low_TCZ_100	N/A	N/A	16	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	32
1097_Verylow_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	2

								Subtotal	36
Genoplesium superbum / Superb Midge Orchid (Flora)									
1150_High_TCZ_100	45.2	45.2	4.2	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	143
1150_High_ECZ_100	34.8	34.8	2.8	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	72
1150_High_HTZ_100	0.0	0.0	0.72	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	0
1150_Moderate_TCZ_100	37.7	37.7	0.27	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	8
1150_Moderate_ECZ_100	27.3	27.3	0.3	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	6

1150_Moderate_HTZ_100	3.2	3.2	0.05	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	1
1150_Low_TCZ_100	26.5	26.5	0.09	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	2
1150_Low_ECZ_100	24.2	24.2	0.14	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	3
1150_Verylow_TCZ_100	4.8	4.8	0.22	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	1
1150_Verylow_ECZ_100	2.1	2.1	0.06	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	1
								Subtotal	**237**

Hieraaetus morphnoides / Little Eagle (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	25
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	14
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Veryhigh_TCZ_100	83.6	83.6	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	61
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.57	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1150_High_TCZ_100	45.2	45.2	6.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	106
1150_High_ECZ_100	34.8	34.8	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	48
1150_High_HTZ_100	0.0	0.0	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Veryhigh_TCZ_100	81.2	81.2	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	37
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	0.58	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	40.2	40.2	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**349**
Keyacris scurra / Key's Matchstick Grasshopper (Fauna)									
1330_Veryhigh_TCZ_100	81.2	81.2	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	49
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	14.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	246

1330_Low_ECZ_100	4.7	4.7	0.29	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Low_HTZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Verylow_ECZ_5	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_Moderate_TCZ_100	40.2	40.2	0.23	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_Low_TCZ_100	27.3	27.3	0.14	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2
								Subtotal	**308**

Kunzea cambagei / Cambage Kunzea (Flora)									
1150_High_TCZ_100	45.2	45.2	6.2	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	141
1150_High_ECZ_100	34.8	34.8	3.6	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	63
1150_High_HTZ_100	0.0	0.0	1.1	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	4

1150_Moderate_HTZ_100	3.2	3.2	0.05	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1150_Low_TCZ_100	26.5	26.5	0.09	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1150_Verylow_TCZ_100	4.8	4.8	0.22	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1150_Verylow_ECZ_100	2.1	2.1	0.06	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**220**

Leucochrysum albicans subsp. tricolor / Hoary Sunray (Flora)									
1093_Veryhigh_TCZ_100	N/A	N/A	50	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	100
1093_High_TCZ_100	N/A	N/A	10	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	20
1093_High_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1093_High_HTZ_100	N/A	N/A	6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
1093_Moderate_TCZ_100	N/A	N/A	41	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	82

1093_Low_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_Veryhigh_TCZ_100	N/A	N/A	68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	136
1330_Low_TCZ_100	N/A	N/A	847	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1694
1330_Low_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Low_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1330_Verylow_ECZ_5	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4

1097_Moderate_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1097_Verylow_TCZ_100	N/A	N/A	28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	56
1097_Verylow_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1097_Verylow_ECZ_5	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
								Subtotal	**2130**
Mixophyes balbus / Stuttering Frog (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	49

870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	28
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	2
1150_High_TCZ_100	45.2	45.2	6.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	212
1150_High_ECZ_100	34.8	34.8	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	95
1150_High_HTZ_100	0.0	0.0	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	9

1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	6
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	3
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	13

1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
								Subtotal	**421**
Myotis macropus / Southern Myotis (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
870_Veryhigh_ECZ_100	57.7	57.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_TCZ_100	81.2	81.2	0.94	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	38
1330_Veryhigh_ECZ_100	57.4	57.4	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1330_Low_TCZ_100	34.2	34.2	0.47	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**68**
Ninox connivens / Barking Owl (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	19

870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1093_Moderate_TCZ_100	53.2	53.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_High_TCZ_100	45.2	45.2	4.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	104
1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0

1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Veryhigh_TCZ_100	81.2	81.2	0.93	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	38
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	40.2	40.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9

1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**372**
Ninox strenua / Powerful Owl (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	19
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2

1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_High_TCZ_100	45.2	45.2	4.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	104
1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Veryhigh_TCZ_100	81.2	81.2	0.93	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	38
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

283_Moderate_TCZ_100	40.2	40.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**372**
Persoonia mollis subsp. revoluta / Persoonia mollis subsp. revoluta (Flora)									
1150_High_TCZ_100	45.2	45.2	4.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	96

1150_High_ECZ_100	34.8	34.8	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	48
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
1150_Moderate_ECZ_100	27.3	27.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1150_Moderate_HTZ_100	3.2	3.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**151**

Petauroides volans / Southern Greater Glider (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	19
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2
1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	68
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	8

1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1150_High_TCZ_100	45.2	45.2	4.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	104

1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2

1330_Veryhigh_TCZ_100	81.2	81.2	0.93	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	38
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1330_Low_TCZ_100	34.2	34.2	0.18	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	3
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	9
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
								Subtotal	**361**

Petaurus norfolcensis / Squirrel Glider (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	19
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8

1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_High_TCZ_100	45.2	45.2	4.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	104

1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2

1330_Veryhigh_TCZ_100	81.2	81.2	0.93	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	38
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	40.2	40.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**361**

Petrogale penicillata / Brush-tailed Rock-wallaby (Fauna)									
1093_Low_TCZ_100	37.4	37.4	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	2
1150_Moderate_TCZ_100	37.7	37.7	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	1
1150_Moderate_ECZ_100	27.3	27.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	5
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	1
1330_Veryhigh_TCZ_100	81.2	81.2	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	21
1330_Veryhigh_ECZ_100	57.4	57.4	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	1

1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	1
283_Moderate_TCZ_100	40.2	40.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	1
1107_High_TCZ_100	66.3	66.3	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	7
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Vulnerable	True	1
								Subtotal	**43**
Petroica rodinogaster / Pink Robin (Fauna)									
1150_High_TCZ_100	45.2	45.2	6.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	141
1150_High_ECZ_100	34.8	34.8	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	63

1150_High_HTZ_100	0.0	0.0	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2

1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**229**
Phascolarctos cinereus / Koala (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	19

870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1093_Veryhigh_TCZ_100	83.6	83.6	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	81
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2

1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.57	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1150_High_TCZ_100	45.2	45.2	6.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	141

1150_High_ECZ_100	34.8	34.8	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	63
1150_High_HTZ_100	0.0	0.0	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Veryhigh_TCZ_100	81.2	81.2	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	49
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Low_TCZ_100	34.2	34.2	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	13
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_Low_HTZ_100	0.9	0.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
283_Moderate_TCZ_100	40.2	40.2	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
283_Moderate_ECZ_100	28.7	28.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	9
1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

								Subtotal	**468**
Phyllota humifusa / Dwarf Phyllota (Flora)									
1150_High_TCZ_100	45.2	45.2	6.2	Geographic Distribution	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	141
1150_High_ECZ_100	34.8	34.8	3.6	Geographic Distribution	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	63
1150_High_HTZ_100	0.0	0.0	1.1	Geographic Distribution	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Geographic Distribution	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.04	Geographic Distribution	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	1
1150_Moderate_HTZ_100	3.2	3.2	0.01	Geographic Distribution	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	1
								Subtotal	**212**
Pomaderris cotoneaster / Cotoneaster Pomaderris (Flora)									
1150_High_TCZ_100	45.2	45.2	6.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	141

1150_High_ECZ_100	34.8	34.8	3.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	63
1150_High_HTZ_100	0.0	0.0	1.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Endangered	False	1
								Subtotal	**215**
Pomaderris delicata / Delicate Pomaderris (Flora)									
1150_High_TCZ_100	45.2	45.2	4.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Critically Endangered	True	143

1150_High_ECZ_100	34.8	34.8	2.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Critically Endangered	True	72
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Critically Endangered	True	0
1150_Moderate_TCZ_100	37.7	37.7	0.27	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Critically Endangered	True	8
1150_Moderate_ECZ_100	27.3	27.3	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Critically Endangered	True	1
1150_Moderate_HTZ_100	3.2	3.2	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Critically Endangered	True	1
								Subtotal	**225**
Solanum armourense / Solanum armourense (Flora)									
1093_High_TCZ_100	73.3	73.3	0.03	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	2

1093_High_ECZ_100	51.8	51.8	0.02	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	1
1093_High_HTZ_100	5.3	5.3	0.04	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	1
1093_Moderate_TCZ_100	53.2	53.2	0.41	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	16
1093_Low_TCZ_100	37.4	37.4	0.01	Population size	Effectiveness of management in controlling threats	Endangered	Not Listed	True	1
								Subtotal	**21**
Swainsona sericea / Silky Swainson-pea (Flora)									
1330_Veryhigh_TCZ_100	81.2	81.2	0.96	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	39

1330_Veryhigh_ECZ_100	57.4	57.4	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	9.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	168
1330_Low_ECZ_100	4.7	4.7	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Low_HTZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Verylow_ECZ_5	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	40.2	40.2	0.23	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	5
283_Low_TCZ_100	27.3	27.3	0.12	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
								Subtotal	**218**

Thesium australe / Austral Toadflax (Flora)									
1330_Veryhigh_TCZ_100	81.2	81.2	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	23
1330_Low_TCZ_100	34.2	34.2	14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	179
1330_Low_ECZ_100	4.7	4.7	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_HTZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_5	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**205**

Tyto novaehollandiae / Masked Owl (Fauna)									
870_Veryhigh_TCZ_100	81.3	81.3	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	33
870_Veryhigh_ECZ_100	57.7	57.7	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	19
870_Veryhigh_HTZ_100	14.4	14.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Veryhigh_TCZ_100	83.6	83.6	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68
1093_Veryhigh_ECZ_100	69.9	69.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Veryhigh_HTZ_100	25.5	25.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8

1093_High_ECZ_100	51.8	51.8	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_High_HTZ_100	5.3	5.3	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
1093_Moderate_ECZ_100	42.2	42.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	37.4	37.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	33.0	33.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_High_TCZ_100	45.2	45.2	4.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	104

1150_High_ECZ_100	34.8	34.8	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
1150_High_HTZ_100	0.0	0.0	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
1150_Moderate_TCZ_100	37.7	37.7	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
1150_Moderate_ECZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1150_Moderate_HTZ_100	3.2	3.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_TCZ_100	26.5	26.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1150_Low_ECZ_100	24.2	24.2	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2

1330_Veryhigh_TCZ_100	81.2	81.2	0.93	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	38
1330_Veryhigh_ECZ_100	57.4	57.4	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_HTZ_100	16.8	16.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	34.2	34.2	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
1330_Low_ECZ_100	4.7	4.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1097_Moderate_TCZ_100	53.7	53.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1107_High_TCZ_100	66.3	66.3	0.26	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9

1107_High_HTZ_100	8.1	8.1	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**369**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029441	6699 Humelink Assessment Bungonia	22/06/2023
Assessor Name	Report Created	BAM Data version *
Simon Tweed	18/08/2023	61
Assessor Number	Assessment Type	BAM Case Status
BAAS17040	Major Projects	Finalised
Assessment Revision		Date Finalised
3		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Black Falcon	Falco subniger	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Black Falcon	Falco subniger	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Broad-headed Snake	Hoplocephalus bungaroides	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Diamond Firetail	Stagonopleura guttata	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Dusky Woodswallow	Artamus cyanopterus cyanopterus	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Eastern Coastal Free-tailed Bat	Micronomus norfolkensis	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
Eastern False Pipistrelle	Falsistrellus tasmaniensis	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Flame Robin	Petroica phoenicea	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Gang-gang Cockatoo	Callocephalon fimbriatum	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Glossy Black-Cockatoo	Calyptorhynchus lathami	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Glossy Black-Cockatoo	Calyptorhynchus lathami	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Greater Broad-nosed Bat	Scoteanax rueppellii	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Grey-headed Flying-fox	Pteropus poliocephalus	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion

Grey-headed Flying-fox	Pteropus poliocephalus	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Bent-winged Bat	Miniopterus australis	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
Little Eagle	Hieraaetus morphnoides	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Little Eagle	Hieraaetus morphnoides	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Lorikeet	Glossopsitta pusilla	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Whip Snake	Suta flagellum	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Masked Owl	Tyto novaehollandiae	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Masked Owl	Tyto novaehollandiae	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Olive Whistler	Pachycephala olivacea	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
Painted Honeyeater	Grantiella picta	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Powerful Owl	Ninox strenua	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Regent Honeyeater	Anthochaera phrygia	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Rosenberg's Goanna	Varanus rosenbergi	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Scarlet Robin	Petroica boodang	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion

Scarlet Robin	Petroica boodang	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Sooty Owl	Tyto tenebricosa	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
Speckled Warbler	Chthonicola sagittata	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Swift Parrot	Lathamus discolor	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Turquoise Parrot	Neophema pulchella	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Varied Sittella	Daphoenositta chrysoptera	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion

Varied Sittella	Daphoenositta chrysoptera	1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
White-throated Needletail	Hirundapus caudacutus	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Yellow-bellied Glider	Petaurus australis	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion

Yellow-bellied Glider	Petaurus australis	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion
		1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029441

Assessment name
6699 Humelink Assessment Bungonia

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

Assessment Type
Major Projects

BAM Case Status
Finalised

Assessment Revision
3

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	283_Moderate_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.23		

2	283_Moderate_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.03		
3	283_Low_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Low_TCZ_100	0.14		
4	870_Veryhigh_TCZ_100	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	Veryhigh_TCZ_100	0.81	1	
5	870_Veryhigh_ECZ_100	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	Veryhigh_ECZ_100	0.65	1	
6	870_Veryhigh_HTZ_100	870-Grey Gum - Thin-leaved Stringybark grassy woodland of the southern Blue Mountains gorges, Sydney Basin Bioregion	Veryhigh_HTZ_100	0.23	1	
7	1093_Veryhigh_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Veryhigh_TCZ_100	1.93	1	

8	1093_Veryhigh_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Veryhigh_ECZ_100	0.01	1	
9	1093_Veryhigh_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.02	1	
10	1093_High_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_TCZ_100	0.22	1	
11	1093_High_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_ECZ_100	0.06	1	
12	1093_High_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_HTZ_100	0.1	1	
13	1093_Moderate_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_TCZ_100	0.57	1	

14	1093_Moderate_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_ECZ_100	0.01	1	
15	1093_Low_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_TCZ_100	0.22	1	
16	1093_Low_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_ECZ_100	0.08	1	
17	1097_Moderate_TCZ_100	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	Moderate_TCZ_100	0.01		
18	1097_Verylow_TCZ_100	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	Verylow_TCZ_100	0.3		
19	1097_Verylow_ECZ_100	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	Verylow_ECZ_100	0.02		

20	1097_Verylow_ECZ_5	1097-Ribbon Gum - Narrow-leaved Peppermint grassy open forest on basalt plateaux, Sydney Basin Bioregion and South Eastern Highlands Bioregion	Verylow_ECZ_5	0.02		
21	1107_High_TCZ_100	1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	High_TCZ_100	0.3		
22	1107_High_HTZ_100	1107-River Peppermint - Narrow-leaved Peppermint open forest on sheltered escarpment slopes, Sydney Basin Bioregion and South East Corner Bioregion	High_HTZ_100	0.01		
23	1150_High_TCZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	High_TCZ_100	6.25	3	
24	1150_High_ECZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	High_ECZ_100	3.64	2	
25	1150_High_HTZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	High_HTZ_100	1.12	1	

26	1150_Moderate_TCZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Moderate_TCZ_100	0.32	1	
27	1150_Moderate_ECZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Moderate_ECZ_100	0.3	1	
28	1150_Moderate_HTZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Moderate_HTZ_100	0.05	1	
29	1150_Low_TCZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Low_TCZ_100	0.09	1	
30	1150_Low_ECZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Low_ECZ_100	0.14	1	
31	1150_Verylow_TCZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Verylow_TCZ_100	0.22	1	

32	1150_Verylow_ECZ_100	1150-Silvertop Ash - Blue-leaved Stringybark shrubby open forest on ridges, north east South Eastern Highlands Bioregion	Verylow_ECZ_100	0.06	1	
33	1330_Veryhigh_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Veryhigh_TCZ_100	1.2	1	
34	1330_Veryhigh_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Veryhigh_ECZ_100	0.05	1	
35	1330_Veryhigh_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.04	1	
36	1330_Low_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_TCZ_100	14.39	3	
37	1330_Low_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_ECZ_100	0.29	1	
38	1330_Low_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_HTZ_100	0.02	1	
39	1330_Verylow_ECZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_ECZ_5	0.02	1	

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029442

Proposal Name
6699 Humelink Assessment - Crookwell

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
4

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered Ecological Community	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Critically Endangered Ecological Community	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Critically Endangered Ecological Community	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Species
Litoria castanea / Yellow-spotted Tree Frog
Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.8	31	0	31
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3.2	32	12	44

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	0.6	0	26	26
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	0.6	3	14	17
727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Not a TEC	3.3	59	0	59
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Not a TEC	6.6	120	23	143
952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	3.1	16	0	16
1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Not a TEC	12.1	180	31	211
1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Not a TEC	10.8	369	6	375
1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	1.2	0	0	0

1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	Not a TEC	0.2	0	3	3
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	33.5	221	316	537

280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	280_Moderate_TCZ_100	Yes	17	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	280_Moderate_ECZ_100	Yes	12	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	280_Moderate_HTZ_100	Yes	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	280_Low_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	280_Low_ECZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman,

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331,					Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	280_Low_HTZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	283_High_TCZ_100	Yes	21	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	283_High_ECZ_100	Yes	9	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	283_High_HTZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	283_Moderate_TCZ_100	No	6	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman,

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331,					Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	283_Moderate_ECZ_100	No	5	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	283_Moderate_HTZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415,					

	3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,	-	283_Low_TCZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	283_Verylow_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	283_Verylow_ECZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363,					impacted site.

	3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_High_TCZ_100	No	26	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region

	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_High_ECZ_100	Yes	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_High_HTZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Moderate_ECZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Moderate_HTZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Low_TCZ_100	No	11	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Low_ECZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Veryhigh_TCZ_100	Yes	31	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Veryhigh_ECZ_100	Yes	6	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Veryhigh_HTZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_TCZ_100	Yes	12	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_TCZ_5	Yes	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_ECZ_100	Yes	3	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_ECZ_5	Yes	3	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_HTZ_5	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Verylow_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_TCZ_100	Yes	21	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_ECZ_100	Yes	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_HTZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Moderate_TCZ_100	Yes	52	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Moderate_ECZ_100	Yes	43	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Moderate_HTZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_TCZ_100	No	22	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_ECZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Moderate_TCZ_100	Yes	7	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Moderate_ECZ_100	Yes	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Low_TCZ_100	Yes	6	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Low_ECZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Verylow_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_TCZ_100	Yes	96	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_ECZ_100	Yes	70	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_HTZ_100	Yes	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_100	Yes	6	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_5	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_ECZ_100	Yes	4	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_HTZ_100	Yes	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_TCZ_100	No	28	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_5	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_HTZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Verylow_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Verylow_ECZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Verylow_HTZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Veryhigh_TCZ_100	Yes	60	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Veryhigh_ECZ_100	Yes	104	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Veryhigh_HTZ_100	Yes	16	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_High_TCZ_100	Yes	60	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_High_ECZ_100	Yes	94	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_High_HTZ_100	Yes	10	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Moderate_TCZ_100	Yes	7	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Moderate_ECZ_100	Yes	15	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Moderate_HTZ_100	Yes	3	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Low_TCZ_100	No	4	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Low_ECZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Low_HTZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Verylow_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Verylow_ECZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region

	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	1191_Low_TCZ_100	Yes	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	1191_Low_ECZ_100	Yes	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Montane Bogs and Fens This includes PCT's: 765, 766, 1229, 1256, 3944, 3946, 3947	Montane Bogs and Fens >=70% and <90%	1256_Low_TCZ_100	No	2	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Montane Bogs and Fens This includes PCT's: 765, 766, 1229, 1256, 3944, 3946, 3947	Montane Bogs and Fens >=70% and <90%	1256_Low_ECZ_100	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	1330_High_TCZ_100	Yes	110	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	1330_High_ECZ_100	Yes	107	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	1330_High_HTZ_100	Yes	4	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	1330_Low_TCZ_100	No	260	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman,

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331,					Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	1330_Low_TCZ_5	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	1330_Low_ECZ_100	No	48	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415,					

	3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,	-	1330_Low_ECZ_5	No	3	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	1330_Low_HTZ_100	No	3	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	1330_Low_HTZ_5	No	1	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363,					impacted site.

	3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599,	-	1330_Verylow_TCZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	1330_Verylow_TCZ_25-100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and	-	1330_Verylow_ECZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange.

	Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	1330_Verylow_ECZ_25-100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	1330_Verylow_HTZ_100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099,	-	1330_Verylow_HTZ_25-100	No	0	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia bynoeana / Bynoe's Wattle	**1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_TCZ_5, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100**	1.8	49.00

Ammobium craspedioides / Yass Daisy	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Verylow_TCZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Verylow_TCZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100**	202.0	404.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 283_Verylow_TCZ_100, 283_Verylow_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_25-100**	11.4	128.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_ECZ_100, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 952_Moderate_ECZ_100, 952_Low_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100,**	29.7	825.00

	1093_High_HTZ_100, **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_HTZ_100,** **1151_Veryhigh_TCZ_100,** **1151_Veryhigh_ECZ_100,** **1151_Veryhigh_HTZ_100,** **1151_High_TCZ_100,** **1151_High_ECZ_100,** **1151_High_HTZ_100,** **1151_Moderate_TCZ_100,** **1151_Moderate_ECZ_100,** **1151_Moderate_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,** **1330_Low_ECZ_5,** **1330_Low_HTZ_100,** **1330_Low_HTZ_5**		

Calyptorhynchus lathami / Glossy Black-Cockatoo	**731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1151_Moderate_TCZ_100, 1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5**	23.6	666.00

Cercartetus nanus / Eastern Pygmy-possum	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100,**	22.7	622.00

	1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1151_Moderate_TCZ_100, 1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Commersonia prostrata / Dwarf Kerrawang	**1191_Low_TCZ_100, 1191_Low_ECZ_100**	0.8	3.00

Delma impar / Striped Legless Lizard	**1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100**	33.5	334.00

Diuris aequalis / Buttercup Doubletail	**731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 731_Low_TCZ_100, 731_Low_ECZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_TCZ_5, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_ECZ_5, 1093_Low_HTZ_100, 1093_Verylow_TCZ_100, 1093_Verylow_ECZ_100, 1093_Verylow_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100,**	24.7	527.00

	1151_High_HTZ_100, 1151_Moderate_TCZ_100, 1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1151_Low_TCZ_100, 1151_Low_ECZ_100, 1151_Low_HTZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100		
Eucalyptus aggregata / Black Gum	**1191_Low_TCZ_100**	1.0	2.00
Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint	**727_Moderate_TCZ_5**	1.0	3.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**1330_Low_TCZ_5**	0.0	1.00

Hieraaetus morphnoides / Little Eagle	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100,**	28.3	578.00

	731_Moderate_HTZ_100, 952_Moderate_TCZ_100, 952_Low_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_ECZ_5, 1093_Low_HTZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5		

Keyacris scurra / Key's Matchstick Grasshopper	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 283_Verylow_TCZ_100, 283_Verylow_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100**	36.7	481.00

Lepidium hyssopifolium / Aromatic Peppercress	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Low_ECZ_100, 280_Low_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 283_Verylow_TCZ_100, 283_Verylow_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100,**	36.4	480.00

	1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100		

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 679_Low_TCZ_100, 679_Low_ECZ_100, 727_Veryhigh_TCZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 727_Verylow_TCZ_100, 731_High_TCZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 731_Low_TCZ_100, 952_Moderate_ECZ_100, 952_Verylow_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_TCZ_5, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100,**	2978.0	5956.00

	1093_Verylow_TCZ_100, 1093_Verylow_ECZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100		
Litoria castanea / Yellow-spotted Tree Frog	**335_High_TCZ_100, 1256_Low_TCZ_100, 1256_Low_ECZ_100**	0.8	42.00

Ninox strenua / Powerful Owl	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_ECZ_100, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100,**	27.6	787.00

	1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1151_Moderate_TCZ_100, 1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Petauroides volans / Southern Greater Glider	**731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	4.0	113.00

Petaurus norfolcensis / Squirrel Glider	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5**	14.4	425.00

Phascolarctos cinereus / Koala	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100,**	39.2	1073.00

	731_Moderate_HTZ_100, 952_Moderate_TCZ_100, 952_Moderate_ECZ_100, 952_Low_TCZ_100, 952_Low_ECZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_TCZ_5, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_ECZ_5, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1151_Moderate_TCZ_100, 1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100,		

	1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5		
Polytelis swainsonii / Superb Parrot	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5**	7.2	192.00

Thesium australe / Austral Toadflax	**679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 679_Low_TCZ_100, 679_Low_ECZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100**	30.3	253.00

Credit Retirement Options

Like-for-like credit retirement options

Acacia bynoeana / Bynoe's Wattle	Spp	IBRA subregion
	Acacia bynoeana / Bynoe's Wattle	Any in NSW

Ammobium craspedioides / Yass Daisy	Spp	IBRA subregion
	Ammobium craspedioides / Yass Daisy	Any in NSW
Aprasia parapulchella / Pink-tailed Legless Lizard	Spp	IBRA subregion
	Aprasia parapulchella / Pink-tailed Legless Lizard	Any in NSW
Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calyptorhynchus lathami / Glossy Black-Cockatoo	Spp	IBRA subregion
	Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Commersonia prostrata / Dwarf Kerrawang	Spp	IBRA subregion
	Commersonia prostrata / Dwarf Kerrawang	Any in NSW
Delma impar / Striped Legless Lizard	Spp	IBRA subregion

	Delma impar / Striped Legless Lizard	Any in NSW
Diuris aequalis / Buttercup Doubletail	Spp	IBRA subregion
	Diuris aequalis / Buttercup Doubletail	Any in NSW
Eucalyptus aggregata / Black Gum	Spp	IBRA subregion
	Eucalyptus aggregata / Black Gum	Any in NSW
Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint	Spp	IBRA subregion
	Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint	Any in NSW
Haliaeetus leucogaster / White-bellied Sea-Eagle	Spp	IBRA subregion
	Haliaeetus leucogaster / White-bellied Sea-Eagle	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Keyacris scurra / Key's Matchstick Grasshopper	Spp	IBRA subregion
	Keyacris scurra / Key's Matchstick Grasshopper	Any in NSW

Lepidium hyssopifolium / Aromatic Peppercress	Spp	IBRA subregion
	Lepidium hyssopifolium / Aromatic Peppercress	Any in NSW
Leucochrysum albicans subsp. tricolor / Hoary Sunray	Spp	IBRA subregion
	Leucochrysum albicans subsp. tricolor / Hoary Sunray	Any in NSW
Litoria castanea / Yellow-spotted Tree Frog	Spp	IBRA subregion
	Litoria castanea / Yellow-spotted Tree Frog	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Petauroides volans / Southern Greater Glider	Spp	IBRA subregion
	Petauroides volans / Southern Greater Glider	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion

	Phascolarctos cinereus / Koala	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Thesium australe / Austral Toadflax	Spp	IBRA subregion
	Thesium australe / Austral Toadflax	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029442

Proposal Name
6699 Humelink Assessment - Crookwell

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Name(s)
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
4

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	Endangered Ecological Community	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Critically Endangered Ecological Community	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	Critically Endangered Ecological Community	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Species
Litoria castanea / Yellow-spotted Tree Frog
Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name

No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.8	31	0	31.00
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3.2	32	12	44.00
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	0.6	0	26	26.00
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	0.6	3	14	17.00
727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Not a TEC	3.3	59	0	59.00
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Not a TEC	6.6	120	23	143.00

952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	3.1	16	0	16.00
1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Not a TEC	12.1	180	31	211.00
1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Not a TEC	10.8	369	6	375.00
1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	1.2	0	0	0.00
1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	Not a TEC	0.2	0	3	3.00
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	33.5	221	316	537.00

280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	280_Moderate_TCZ_100	Yes	17	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy	-	280_Moderate_ECZ_10	Yes	12	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman,

	Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394,		0			Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332,	-	280_Moderate_HTZ_100	Yes	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	280_Low_TCZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	280_Low_ECZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	280_Low_HTZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	283_High_TCZ_100	Yes	21	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698,	-	283_High_ECZ_100	Yes	9	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103,	-	283_High_HTZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	283_Moderate_TCZ_100	No	6	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381,	-	283_Moderate_ECZ_100	No	5	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	283_Moderate_HTZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland,	-	283_Low_TCZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box -	-	283_Verylo	No	0	Crookwell,Bungonia, Inland Slopes,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373,		w_TCZ_100			Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324,	-	283_Verylow_ECZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_High_TCZ_100	No	26	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Freshwater Wetlands	Tier 2 or higher threat status	335_High_TCZ_100	No	26	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_High_ECZ_100	Yes	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_High_HTZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Moderate_ECZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Moderate_HTZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Low_TCZ_100	No	11	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	679_Low_ECZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Veryhigh_TCZ_100	Yes	31	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Veryhigh_ECZ_100	Yes	6	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Veryhigh_HTZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_TCZ_100	Yes	12	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_TCZ_5	Yes	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_ECZ_100	Yes	3	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_ECZ_5	Yes	3	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Moderate_HTZ_5	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	727_Verylow_TCZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Veryhigh_TCZ_100	Yes (including artificial)	31	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Veryhigh_ECZ_100	Yes (including artificial)	6	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Veryhigh_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Moderate_TCZ_100	Yes (including artificial)	12	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Moderate_TCZ_5	Yes (including artificial)	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Moderate_ECZ_100	Yes (including artificial)	3	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Moderate_ECZ_5	Yes (including artificial)	3	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Moderate_HTZ_5	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	727_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_TCZ_100	Yes	21	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_ECZ_100	Yes	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_HTZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Moderate_TCZ_100	Yes	52	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Moderate_ECZ_100	Yes	43	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Moderate_HTZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_TCZ_100	No	22	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_ECZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 2 or higher threat status	731_High_TCZ_100	Yes (including artificial)	21	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 2 or higher threat status	731_High_ECZ_100	Yes (including artificial)	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 2 or higher threat status	731_High_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Grassy Woodlands	Tier 2 or higher threat status	731_Moderate_TCZ_100	Yes (including artificial)	52	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	731_Moderate_ECZ_100	Yes (including artificial)	43	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	731_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	731_Low_TCZ_100	No	22	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	731_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Moderate_TCZ_100	Yes	7	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Moderate_ECZ_100	Yes	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Low_TCZ_100	Yes	6	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Low_ECZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions This includes PCT's: 730, 742, 744, 802, 951, 952, 953, 963, 1070, 1097, 1100, 1101, 1102, 1103, 1107, 1196, 1197, 1254, 3295, 3305, 3366	-	952_Verylow_TCZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 3 or higher threat status	952_Moderate_TCZ_100	Yes (including artificial)	7	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	952_Moderate_ECZ_100	Yes (including artificial)	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	952_Low_TCZ_100	Yes (including artificial)	6	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	952_Low_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	952_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_TCZ_100	Yes	96	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_ECZ_100	Yes	70	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_HTZ_100	Yes	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_100	Yes	6	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_5	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_ECZ_100	Yes	4	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_HTZ_100	Yes	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_TCZ_100	No	28	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_5	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_HTZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryl ow_TCZ_10 0	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryl ow_ECZ_10 0	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryl ow_HTZ_10 0	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High _TCZ_100	Yes (includi ng artificia l)	96	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_ECZ_100	Yes (including artificial)	70	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_HTZ_100	Yes (including artificial)	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_TCZ_100	Yes (including artificial)	6	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_TCZ_5	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_ECZ_100	Yes (including artificial)	4	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_TCZ_100	No	28	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_ECZ_5	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_HTZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Veryl ow_TCZ_10 0	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Veryl ow_ECZ_10 0	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Veryl ow_HTZ_10 0	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Very high_TCZ_1 00	Yes	60	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Very high_ECZ_100	Yes	104	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Very high_HTZ_100	Yes	16	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_High_TCZ_100	Yes	60	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_High_ECZ_100	Yes	94	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_High_HTZ_100	Yes	10	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Moderate_TCZ_100	Yes	7	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Moderate_ECZ_100	Yes	15	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Moderate_HTZ_100	Yes	3	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Low_TCZ_100	No	4	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Low_ECZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Low_HTZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Verylow_TCZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

South East Dry Sclerophyll Forests This includes PCT's: 1151	South East Dry Sclerophyll Forests >=90%	1151_Veryllow_ECZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Very high_TCZ_100	Yes (including artificial)	60	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Very high_ECZ_100	Yes (including artificial)	104	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Very high_HTZ_100	Yes (including artificial)	16	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_High_TCZ_100	Yes (including artificial)	60	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_High_ECZ_100	Yes (including artificial)	94	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_High_HTZ_100	Yes (including artificial)	10	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Moderate_TCZ_100	Yes (including artificial)	7	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Moderate_ECZ_100	Yes (including artificial)	15	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Moderate_HTZ_100	Yes (including artificial)	3	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Low_TCZ_100	No	4	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Low_HTZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 1	1151_Verylow_ECZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	1191_Low_TCZ_100	Yes	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion This includes PCT's: 679, 797, 802, 803, 804, 1100, 1101, 1191, 1197, 1199, 1229, 1295, 3341, 3413	-	1191_Low_ECZ_100	Yes	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Montane Bogs and Fens This includes PCT's: 765, 766, 1229, 1256, 3944, 3946, 3947	Montane Bogs and Fens >=70% and <90%	1256_Low_TCZ_100	No	2	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Montane Bogs and Fens This includes PCT's: 765, 766, 1229, 1256, 3944, 3946, 3947	Montane Bogs and Fens >=70% and <90%	1256_Low_ECZ_100	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Freshwater Wetlands	Tier 2 or higher threat status	1256_Low_TCZ_100	No	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Freshwater Wetlands	Tier 2 or higher threat status	1256_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332,	-	1330_High_TCZ_100	Yes	110	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	1330_High_ECZ_100	Yes	107	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	1330_High_HTZ_100	Yes	4	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	1330_Low_TCZ_100	No	260	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	1330_Low_TCZ_5	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived	-	1330_Low_ECZ_100	No	48	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange.

	Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401,	-	1330_Low_ECZ_5	No	3	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	1330_Low_HTZ_100	No	3	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	1330_Low_HTZ_5	No	1	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	1330_Veryllow_TCZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	1330_Veryl ow_TCZ_25 -100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the	-	1330_Veryl ow_ECZ_10 0	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or

	NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611,	-	1330_Veryl ow_ECZ_25 -100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,	-	1330_Verylow_HTZ_100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	1330_Veryl ow_HTZ_25 -100	No	0	Crookwell,Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia bynoeana / Bynoe's Wattle	**1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_TCZ_5, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100**	1.8	49.00

Ammobium craspedioides / Yass Daisy	**283_High_TCZ_100,** **283_High_ECZ_100,** **283_High_HTZ_100,** **283_Moderate_TCZ_100,** **283_Moderate_ECZ_100,** **283_Verylow_TCZ_100,** **727_Veryhigh_TCZ_100,** **727_Veryhigh_ECZ_100,** **727_Moderate_TCZ_5,** **727_Moderate_ECZ_100,** **727_Moderate_ECZ_5,** **727_Verylow_TCZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,** **1330_Low_ECZ_5,** **1330_Low_HTZ_100,** **1330_Verylow_TCZ_100,** **1330_Verylow_TCZ_25-100,** **1330_Verylow_ECZ_100**	202.0	404.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 283_Verylow_TCZ_100, 283_Verylow_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_25-100**	11.4	128.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_ECZ_100, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 952_Moderate_ECZ_100, 952_Low_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Low_TCZ_100,**	29.7	825.00

	1093_Low_ECZ_100, **1093_Low_HTZ_100,** **1151_Veryhigh_TCZ_100,** **1151_Veryhigh_ECZ_100,** **1151_Veryhigh_HTZ_100,** **1151_High_TCZ_100,** **1151_High_ECZ_100,** **1151_High_HTZ_100,** **1151_Moderate_TCZ_100,** **1151_Moderate_ECZ_100,** **1151_Moderate_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,** **1330_Low_ECZ_5,** **1330_Low_HTZ_100,** **1330_Low_HTZ_5**		

Calyptorhynchus lathami / Glossy Black-Cockatoo	**731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1151_Moderate_TCZ_100, 1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5**	23.6	666.00

Cercartetus nanus / Eastern Pygmy-possum	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100,**	22.7	622.00

	1151_High_HTZ_100, **1151_Moderate_TCZ_100,** **1151_Moderate_ECZ_100,** **1151_Moderate_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,** **1330_Low_HTZ_100**		
Commersonia prostrata / Dwarf Kerrawang	**1191_Low_TCZ_100,** **1191_Low_ECZ_100**	0.8	3.00
Delma impar / Striped Legless Lizard	**1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_TCZ_5,** **1330_Low_ECZ_100,** **1330_Low_ECZ_5,** **1330_Low_HTZ_100,** **1330_Low_HTZ_5,** **1330_Verylow_TCZ_100,** **1330_Verylow_TCZ_25-100,** **1330_Verylow_ECZ_100,** **1330_Verylow_ECZ_25-100,** **1330_Verylow_HTZ_100,** **1330_Verylow_HTZ_25-100**	33.5	334.00

Diuris aequalis / Buttercup Doubletail	**731_High_TCZ_100,** **731_High_ECZ_100,** **731_High_HTZ_100,** **731_Moderate_TCZ_100,** **731_Moderate_ECZ_100,** **731_Moderate_HTZ_100,** **731_Low_TCZ_100,** **731_Low_ECZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_TCZ_5,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_ECZ_5,** **1093_Low_HTZ_100,** **1093_Verylow_TCZ_100,** **1093_Verylow_ECZ_100,** **1093_Verylow_HTZ_100,** **1151_Veryhigh_TCZ_100,** **1151_Veryhigh_ECZ_100,** **1151_Veryhigh_HTZ_100,** **1151_High_TCZ_100,** **1151_High_ECZ_100,** **1151_High_HTZ_100,** **1151_Moderate_TCZ_100,** **1151_Moderate_ECZ_100,** **1151_Moderate_HTZ_100,**	24.7	527.00

	1151_Low_TCZ_100, 1151_Low_ECZ_100, 1151_Low_HTZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100		
Eucalyptus aggregata / Black Gum	**1191_Low_TCZ_100**	1.0	2.00
Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint	**727_Moderate_TCZ_5**	1.0	3.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**1330_Low_TCZ_5**	0.0	1.00

Hieraaetus morphnoides / Little Eagle	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 952_Moderate_TCZ_100, 952_Low_TCZ_100, 1093_High_TCZ_100,**	28.3	578.00

	1093_High_ECZ_100, **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_ECZ_5,** **1093_Low_HTZ_100,** **1191_Low_TCZ_100,** **1191_Low_ECZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,** **1330_Low_ECZ_5,** **1330_Low_HTZ_100,** **1330_Low_HTZ_5**		

Keyacris scurra / Key's Matchstick Grasshopper	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 283_Verylow_TCZ_100, 283_Verylow_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100**	36.7	481.00

Lepidium hyssopifolium / Aromatic Peppercress	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Low_ECZ_100, 280_Low_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 283_Verylow_TCZ_100, 283_Verylow_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100**	36.4	480.00

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 679_Low_TCZ_100, 679_Low_ECZ_100, 727_Veryhigh_TCZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 727_Verylow_TCZ_100, 731_High_TCZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 731_Low_TCZ_100, 952_Moderate_ECZ_100, 952_Verylow_TCZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_TCZ_5, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Verylow_TCZ_100, 1093_Verylow_ECZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100,**	2978.0	5956.00

	1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100		
Litoria castanea / Yellow-spotted Tree Frog	**335_High_TCZ_100, 1256_Low_TCZ_100, 1256_Low_ECZ_100**	0.8	42.00

Ninox strenua / Powerful Owl	**283_High_TCZ_100,** **283_High_ECZ_100,** **283_High_HTZ_100,** **283_Moderate_ECZ_100,** **283_Moderate_HTZ_100,** **727_Veryhigh_TCZ_100,** **727_Veryhigh_ECZ_100,** **727_Veryhigh_HTZ_100,** **727_Moderate_TCZ_100,** **727_Moderate_ECZ_100,** **731_High_TCZ_100,** **731_High_ECZ_100,** **731_High_HTZ_100,** **731_Moderate_TCZ_100,** **731_Moderate_ECZ_100,** **731_Moderate_HTZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_HTZ_100,** **1151_Veryhigh_TCZ_100,** **1151_Veryhigh_ECZ_100,** **1151_Veryhigh_HTZ_100,** **1151_High_TCZ_100,** **1151_High_ECZ_100,** **1151_High_HTZ_100,** **1151_Moderate_TCZ_100,**	27.6	787.00

	1151_Moderate_ECZ_100, 1151_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Petauroides volans / Southern Greater Glider	**731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_High_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	4.0	113.00

Petaurus norfolcensis / Squirrel Glider	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 1093_Moderate_TCZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1151_Veryhigh_TCZ_100, 1151_Veryhigh_ECZ_100, 1151_Veryhigh_HTZ_100, 1151_High_TCZ_100, 1151_High_ECZ_100, 1151_High_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5**	14.4	425.00

Phascolarctos cinereus / Koala	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 283_Low_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 727_Veryhigh_TCZ_100, 727_Veryhigh_ECZ_100, 727_Veryhigh_HTZ_100, 727_Moderate_TCZ_100, 727_Moderate_TCZ_5, 727_Moderate_ECZ_100, 727_Moderate_ECZ_5, 727_Moderate_HTZ_5, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 731_Moderate_TCZ_100, 731_Moderate_ECZ_100, 731_Moderate_HTZ_100, 952_Moderate_TCZ_100, 952_Moderate_ECZ_100, 952_Low_TCZ_100,**	39.2	1073.00

	952_Low_ECZ_100, **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_TCZ_5,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_ECZ_5,** **1093_Low_HTZ_100,** **1151_Veryhigh_TCZ_100,** **1151_Veryhigh_ECZ_100,** **1151_Veryhigh_HTZ_100,** **1151_High_TCZ_100,** **1151_High_ECZ_100,** **1151_High_HTZ_100,** **1151_Moderate_TCZ_100,** **1151_Moderate_ECZ_100,** **1151_Moderate_HTZ_100,** **1191_Low_TCZ_100,** **1191_Low_ECZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_TCZ_5,** **1330_Low_ECZ_100,** **1330_Low_ECZ_5,** **1330_Low_HTZ_100,**		

	1330_Low_HTZ_5		
Polytelis swainsonii / Superb Parrot	**280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_ECZ_100, 283_Moderate_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_ECZ_5, 1330_Low_HTZ_100, 1330_Low_HTZ_5**	7.2	192.00

Thesium australe / Austral Toadflax	**679_High_ECZ_100, 679_High_HTZ_100, 679_Moderate_ECZ_100, 679_Moderate_HTZ_100, 679_Low_TCZ_100, 679_Low_ECZ_100, 1191_Low_TCZ_100, 1191_Low_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_TCZ_25-100, 1330_Verylow_ECZ_100, 1330_Verylow_ECZ_25-100, 1330_Verylow_HTZ_100, 1330_Verylow_HTZ_25-100**	30.3	253.00

Credit Retirement Options

Like-for-like options

Acacia bynoeana/ Bynoe's Wattle

Spp	IBRA region
Acacia bynoeana/Bynoe's Wattle	Any in NSW

Variation options

Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Flora	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ammobium craspedioides/ Yass Daisy	Spp	IBRA region	
	Ammobium craspedioides/Yass Daisy	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Aprasia parapulchella/ Pink-tailed Legless Lizard	Spp	IBRA region	
	Aprasia parapulchella/Pink-tailed Legless Lizard	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp	IBRA region	
	Callocephalon fimbriatum/Gang-gang Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Calyptorhynchus lathami/ Glossy Black-Cockatoo	Spp	IBRA region	

	Calyptorhynchus lathami/Glossy Black-Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cercartetus nanus/ Eastern Pygmy-possum	Spp	IBRA region	
	Cercartetus nanus/Eastern Pygmy-possum	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Commersonia prostrata/ Dwarf Kerrawang	Spp	IBRA region	
	Commersonia prostrata/Dwarf Kerrawang	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Delma impar/ Striped Legless Lizard	Spp	IBRA region	
	Delma impar/Striped Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Diuris aequalis/ Buttercup Doubletail	Spp	IBRA region	
	Diuris aequalis/Buttercup Doubletail	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Eucalyptus aggregata/ Black Gum	Spp	IBRA region	
	Eucalyptus aggregata/Black Gum	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Eucalyptus robertsonii subsp. hemisphaerica/ Robertson's Peppermint	Spp	IBRA region	
	Eucalyptus robertsonii subsp. hemisphaerica/Robertson's Peppermint	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Haliaeetus leucogaster/ White-bellied Sea-Eagle	Spp	IBRA region	

	Haliaeetus leucogaster/White-bellied Sea-Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Hieraaetus morphnoides/ Little Eagle	Spp	IBRA region	
	Hieraaetus morphnoides/Little Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Keyacris scurra/ Key's Matchstick Grasshopper	Spp	IBRA region	
	Keyacris scurra/Key's Matchstick Grasshopper	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Lepidium hyssopifolium/ Aromatic Peppercress	Spp	IBRA region	
	Lepidium hyssopifolium/Aromatic Peppercress	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Flora	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Leucochrysum albicans subsp. tricolor/ Hoary Sunray	Spp	IBRA region	
	Leucochrysum albicans subsp. tricolor/Hoary Sunray	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Litoria castanea/ Yellow-spotted Tree Frog	Spp	IBRA region	

	Litoria castanea/Yellow-spotted Tree Frog *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*		Any in NSW
Ninox strenua/ Powerful Owl	Spp		IBRA region
	Ninox strenua/Powerful Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petauroides volans/ Southern Greater Glider	Spp		IBRA region
	Petauroides volans/Southern Greater Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	
	Petaurus norfolcensis/Squirrel Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp	IBRA region	
	Phascolarctos cinereus/Koala	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Endangered	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Polytelis swainsonii/ Superb Parrot	Spp	IBRA region	
	Polytelis swainsonii/Superb Parrot	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Thesium australe/ Austral Toadflax	Spp	IBRA region	
	Thesium australe/Austral Toadflax	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Crookwell, Bungonia, Inland Slopes, Kanangra, Monaro, Murrumbateman, Oberon and Orange. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/21/00029442	Proposal Name 6699 Humelink Assessment - Crookwell	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 4	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Acacia bynoeana Bynoe's Wattle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ammobium craspedioides Yass Daisy	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☐ Jun ☑ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☑ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Commersonia prostrata Dwarf Kerrawang	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Delma impar Striped Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris aequalis Buttercup Doubletail	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Eucalyptus aggregata Black Gum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus robertsonii subsp. hemisphaerica Robertson's Peppermint	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Keyacris scurra Key's Matchstick Grasshopper	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lepidium hyssopifolium Aromatic Peppercress	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Leucochrysum albicans subsp. tricolor Hoary Sunray	Yes (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?
Litoria castanea Yellow-spotted Tree Frog	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Southern Greater Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis Squirrel Glider	Yes (surveyed)	☐ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☐ Jun ☑ Jul ☐ Aug ☐ Sep ☑ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Polytelis swainsonii Superb Parrot	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Thesium australe Austral Toadflax	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Booroolong Frog	Litoria booroolongensis	Refer to BAR
Giant Burrowing Frog	Heleioporus australiacus	Refer to BAR
Green and Golden Bell Frog	Litoria aurea	Refer to BAR
Grey-headed Flying-fox	Pteropus poliocephalus	Refer to BAR
Large Bent-winged Bat	Miniopterus orianae oceanensis	Refer to BAR
Regent Honeyeater	Anthochaera phrygia	Refer to BAR

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029442

Proposal Name
6699 Humelink Assessment - Crookwell

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
4

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits

Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion												
7	283_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	79.8	79.8	0.42	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	21

8	283_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	79.8	45.9	0.31	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	9

9	283_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	79.8	7.2	0.12	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

10	283_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	61.7	61.7	0.16	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	6

11	283_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	61.7	34.2	0.24	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	5

12	283_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	61.7	18.2	0.05	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

13	283_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	75.7	75.7	0.01	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

14	283_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	2.2	2.2	1.8	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

15	283_Veryl ow_ECZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	2.2	0.9	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtot al	**44**
Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion												
17	679_High_ ECZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	65.5	62.1	0.05	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

18	679_High_HTZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	65.5	17.5	0.01	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
19	679_Moderate_ECZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	41.8	16.8	0.1	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
20	679_Moderate_HTZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	41.8	0.0	0.01	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

21	679_Low_TCZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	54.4	54.4	0.33	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	11
22	679_Low_ECZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	54.4	21.2	0.05	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
											Subtotal	**17**
Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion												
23	727_Veryhigh_TCZ_100	Not a TEC	86	86.0	0.82	PCT Cleared - 50%	High Sensitivity to Gain			1.75		31
24	727_Veryhigh_ECZ_100	Not a TEC	86	65.6	0.2	PCT Cleared - 50%	High Sensitivity to Gain			1.75		6
25	727_Veryhigh_HTZ_100	Not a TEC	86	20.2	0.07	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1

26	727_Moderate_TCZ_100	Not a TEC	50.3	50.3	0.53	PCT Cleared - 50%	High Sensitivity to Gain			1.75		12
27	727_Moderate_TCZ_5	Not a TEC	50.3	50.3	0.09	PCT Cleared - 50%	High Sensitivity to Gain			1.75		2
28	727_Moderate_ECZ_100	Not a TEC	50.3	42.3	0.16	PCT Cleared - 50%	High Sensitivity to Gain			1.75		3
29	727_Moderate_ECZ_5	Not a TEC	50.3	42.3	0.16	PCT Cleared - 50%	High Sensitivity to Gain			1.75		3
30	727_Moderate_HTZ_5	Not a TEC	50.3	3.9	0.04	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1
31	727_Verylow_TCZ_100	Not a TEC	10.4	10.4	1.2	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
											Subtotal	**59**
Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion												
32	731_High_TCZ_100	Not a TEC	81.8	81.8	0.52	PCT Cleared - 80%	High Sensitivity to Gain			2.00		21
33	731_High_ECZ_100	Not a TEC	81.8	66.2	0.06	PCT Cleared - 80%	High Sensitivity to Gain			2.00		2

34	731_High_HTZ_100	Not a TEC	81.8	22.8	0.07	PCT Cleared - 80%	High Sensitivity to Gain			2.00		1
35	731_Moderate_TCZ_100	Not a TEC	68.3	68.3	1.5	PCT Cleared - 80%	High Sensitivity to Gain			2.00		52
36	731_Moderate_ECZ_100	Not a TEC	68.3	48.5	1.8	PCT Cleared - 80%	High Sensitivity to Gain			2.00		43
37	731_Moderate_HTZ_100	Not a TEC	68.3	0.6	0.27	PCT Cleared - 80%	High Sensitivity to Gain			2.00		1
38	731_Low_TCZ_100	Not a TEC	18.7	18.7	2.4	PCT Cleared - 80%	High Sensitivity to Gain			2.00		22
39	731_Low_ECZ_100	Not a TEC	18.7	11.0	0.01	PCT Cleared - 80%	High Sensitivity to Gain			2.00		1
											Subtotal	**143**
Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion												
40	952_Moderate_TCZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	45.2	45.2	0.33	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	7

41	952_Moderate_ECZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	45.2	37.8	0.08	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	2
42	952_Low_TCZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	40.8	40.8	0.31	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	6
43	952_Low_ECZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	40.8	35.0	0.08	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	1
44	952_Verylow_TCZ_100	Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions	5.7	5.7	2.3	Population size	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	0
											Subtotal	**16**

Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion												
1	280_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42	42.0	0.65	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	17

2	280_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42	27.6	0.67	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	12

3	280_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42	11.6	0.22	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

4	280_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	10.4	10.4	0.11	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

5	280_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	10.4	4.9	0.09	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

6	280_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	10.4	0.0	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**31**
Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion												
45	1093_High_TCZ_100	Not a TEC	73.3	73.3	3	PCT Cleared - 61%	High Sensitivity to Gain			1.75		96
46	1093_High_ECZ_100	Not a TEC	73.3	51.8	3.1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		70
47	1093_High_HTZ_100	Not a TEC	73.3	5.3	0.98	PCT Cleared - 61%	High Sensitivity to Gain			1.75		2

48	1093_Moderate_TCZ_100	Not a TEC	53.2	53.2	0.26	PCT Cleared - 61%	High Sensitivity to Gain			1.75		6
49	1093_Moderate_TCZ_5	Not a TEC	53.2	53.2	0.03	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
50	1093_Moderate_ECZ_100	Not a TEC	53.2	42.2	0.24	PCT Cleared - 61%	High Sensitivity to Gain			1.75		4
51	1093_Moderate_HTZ_100	Not a TEC	53.2	2.5	0.02	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
52	1093_Low_TCZ_100	Not a TEC	33.4	33.4	2	PCT Cleared - 61%	High Sensitivity to Gain			1.75		28
53	1093_Low_ECZ_100	Not a TEC	33.4	28.0	0.1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
54	1093_Low_ECZ_5	Not a TEC	33.4	28.0	0.01	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
55	1093_Low_HTZ_100	Not a TEC	33.4	1.2	0.09	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
56	1093_Very low_TCZ_100	Not a TEC	5.2	5.2	2.2	PCT Cleared - 61%	High Sensitivity to Gain			1.75		0

57	1093_Very low_ECZ_100	Not a TEC	5.2	2.3	0.1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		0
58	1093_Very low_HTZ_100	Not a TEC	5.2	0.0	0.01	PCT Cleared - 61%	High Sensitivity to Gain			1.75		0
											Subtotal	**211**
Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion												
59	1151_Very high_TCZ_100	Not a TEC	81.4	81.4	1.2	PCT Cleared - 90%	High Sensitivity to Gain			2.50		60
60	1151_Very high_ECZ_100	Not a TEC	81.4	60.6	2.8	PCT Cleared - 90%	High Sensitivity to Gain			2.50		104
61	1151_Very high_HTZ_100	Not a TEC	81.4	26.5	0.95	PCT Cleared - 90%	High Sensitivity to Gain			2.50		16
62	1151_High_TCZ_100	Not a TEC	77.1	77.1	1.2	PCT Cleared - 90%	High Sensitivity to Gain			2.50		60
63	1151_High_ECZ_100	Not a TEC	77.1	58.4	2.6	PCT Cleared - 90%	High Sensitivity to Gain			2.50		94
64	1151_High_HTZ_100	Not a TEC	77.1	23.6	0.66	PCT Cleared - 90%	High Sensitivity to Gain			2.50		10

65	1151_Moderate_TCZ_100	Not a TEC	48.4	48.4	0.23	PCT Cleared - 90%	High Sensitivity to Gain			2.50		7
66	1151_Moderate_ECZ_100	Not a TEC	48.4	43.6	0.54	PCT Cleared - 90%	High Sensitivity to Gain			2.50		15
67	1151_Moderate_HTZ_100	Not a TEC	48.4	37.2	0.13	PCT Cleared - 90%	High Sensitivity to Gain			2.50		3
68	1151_Low_TCZ_100	Not a TEC	25.6	25.6	0.28	PCT Cleared - 90%	High Sensitivity to Gain			2.50		4
69	1151_Low_ECZ_100	Not a TEC	25.6	23.4	0.09	PCT Cleared - 90%	High Sensitivity to Gain			2.50		1
70	1151_Low_HTZ_100	Not a TEC	25.6	1.4	0.09	PCT Cleared - 90%	High Sensitivity to Gain			2.50		1
71	1151_Very low_TCZ_100	Not a TEC	4.6	4.6	0.02	PCT Cleared - 90%	High Sensitivity to Gain			2.50		0
72	1151_Very low_ECZ_100	Not a TEC	4.6	2.1	0.08	PCT Cleared - 90%	High Sensitivity to Gain			2.50		0
											Subtotal	**375**

Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion												
73	1191_Low_TCZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	5.5	5.5	1.1	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
74	1191_Low_ECZ_100	Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	5.5	5.2	0.01	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**0**
Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion												
75	1256_Low_TCZ_100	Not a TEC	27.8	27.8	0.16	PCT Cleared - 85%	High Sensitivity to Gain			2.00		2
76	1256_Low_ECZ_100	Not a TEC	27.8	0.0	0.03	PCT Cleared - 85%	High Sensitivity to Gain			2.00		1
											Subtotal	**3**

Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion												
16	335_High_TCZ_100	Not a TEC	84.4	84.4	0.61	PCT Cleared - 83%	High Sensitivity to Gain			2.00		26
											Subtotal	**26**
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion												
77	1330_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	81.1	81.1	2.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	110

78	1330_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	81.1	60.9	2.8	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	107

79	1330_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	81.1	9.2	0.69	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	4

80	1330_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	53.4	53.4	7.8	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	260

81	1330_Low_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	53.4	53.4	0.01	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

82	1330_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	53.4	40.1	1.9	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	48

83	1330_Low_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	53.4	40.1	0.13	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

84	1330_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	53.4	25.3	0.18	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

85	1330_Low_HTZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	53.4	25.3	0.01	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

86	1330_Very low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	1.1	15.3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

87	1330_Very low_TCZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	1.1	2.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

88	1330_Very low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	0.5	0.3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

89	1330_Very low_ECZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	0.5	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

90	1330_Very low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	0.0	0.04	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

91	1330_Very low_HTZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.1	0.0	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**537**
											Total	**1462**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits

Acacia bynoeana / Bynoe's Wattle (Flora)									
1093_High_TCZ_100	73.3	73.3	0.74	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	27
1093_High_ECZ_100	51.8	51.8	0.49	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	13
1093_High_HTZ_100	5.3	5.3	0.21	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.13	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	3
1093_Moderate_TCZ_5	53.2	53.2	0.03	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	1
1093_Moderate_ECZ_100	42.2	42.2	0.14	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	3
1093_Moderate_HTZ_100	2.5	2.5	0.02	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Vulnerable	False	1

								Subtotal	**49**
Ammobium craspedioides / Yass Daisy (Flora)									
283_High_TCZ_100	N/A	N/A	7	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	14
283_High_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
283_High_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
283_Moderate_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
283_Moderate_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
283_Verylow_TCZ_100	N/A	N/A	12	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	24

727_Veryhigh_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
727_Veryhigh_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
727_Moderate_TCZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
727_Moderate_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
727_Moderate_ECZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
727_Verylow_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
1330_High_TCZ_100	N/A	N/A	10	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	20

1330_High_ECZ_100	N/A	N/A	7	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	14
1330_High_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
1330_Low_TCZ_100	N/A	N/A	29	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	58
1330_Low_ECZ_100	N/A	N/A	12	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	24
1330_Low_ECZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
1330_Low_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
1330_Verylow_TCZ_100	N/A	N/A	85	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	170

1330_Verylow_TCZ_25-100	N/A	N/A	15	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	30
1330_Verylow_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
								Subtotal	**404**
Aprasia parapulchella / Pink-tailed Legless Lizard (Fauna)									
283_Moderate_TCZ_100	61.7	61.7	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
283_Moderate_ECZ_100	34.2	34.2	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_Moderate_HTZ_100	18.2	18.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_Low_TCZ_100	75.7	75.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

283_Verylow_TCZ_100	2.2	2.2	1.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
283_Verylow_ECZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_High_TCZ_100	81.1	81.1	0.97	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	39
1330_High_ECZ_100	60.9	60.9	0.48	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	15
1330_High_HTZ_100	9.2	9.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	53.4	53.4	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	51
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

1330_Low_ECZ_100	40.1	40.1	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Low_HTZ_100	25.3	25.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Verylow_TCZ_100	1.1	1.1	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1330_Verylow_TCZ_25-100	1.1	1.1	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_100	0.5	0.5	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_25-100	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Verylow_HTZ_25-100	0.0	0.0	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**128**

Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
280_Moderate_TCZ_100	42.0	42.0	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	14
280_Moderate_ECZ_100	27.6	27.6	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	9
280_Moderate_HTZ_100	11.6	11.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	17
283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
283_Moderate_ECZ_100	34.2	34.2	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4

283_Moderate_HTZ_100	18.2	18.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
679_High_ECZ_100	62.1	62.1	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
679_High_HTZ_100	17.5	17.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
679_Moderate_ECZ_100	16.8	16.8	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
679_Moderate_HTZ_100	0.0	0.0	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	0
727_Veryhigh_TCZ_100	86.0	86.0	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	35
727_Veryhigh_ECZ_100	65.6	65.6	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7

727_Veryhigh_HTZ_100	20.2	20.2	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
727_Moderate_TCZ_100	50.3	50.3	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	13
727_Moderate_ECZ_100	42.3	42.3	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
731_High_TCZ_100	81.8	81.8	0.52	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	21
731_High_ECZ_100	66.2	66.2	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
731_High_HTZ_100	22.8	22.8	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
731_Moderate_TCZ_100	68.3	68.3	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	40

731_Moderate_ECZ_100	48.5	48.5	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	33
731_Moderate_HTZ_100	0.6	0.6	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
952_Moderate_ECZ_100	37.8	37.8	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
952_Low_TCZ_100	40.8	40.8	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
1093_High_TCZ_100	73.3	73.3	2.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	87
1093_High_ECZ_100	51.8	51.8	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	68
1093_High_HTZ_100	5.3	5.3	0.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2

1093_Moderate_TCZ_100	53.2	53.2	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
1093_Moderate_ECZ_100	42.2	42.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
1093_Low_TCZ_100	33.4	33.4	0.58	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	10
1093_Low_ECZ_100	28.0	28.0	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1093_Low_HTZ_100	1.2	1.2	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1151_Veryhigh_TCZ_100	81.4	81.4	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	48
1151_Veryhigh_ECZ_100	60.6	60.6	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	83

1151_Veryhigh_HTZ_100	26.5	26.5	0.95	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	13
1151_High_TCZ_100	77.1	77.1	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	48
1151_High_ECZ_100	58.4	58.4	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	75
1151_High_HTZ_100	23.6	23.6	0.66	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
1151_Moderate_TCZ_100	48.4	48.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6
1151_Moderate_ECZ_100	43.6	43.6	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	12
1151_Moderate_HTZ_100	37.2	37.2	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2

1330_High_TCZ_100	81.1	81.1	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	55
1330_High_ECZ_100	60.9	60.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	68
1330_High_HTZ_100	9.2	9.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
1330_Low_TCZ_100	53.4	53.4	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	5
1330_Low_ECZ_100	40.1	40.1	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
1330_Low_HTZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
								Subtotal	**825**
Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)									
731_Moderate_TCZ_100	68.3	68.3	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	38
731_Moderate_ECZ_100	48.5	48.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	29
731_Moderate_HTZ_100	0.6	0.6	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_High_TCZ_100	73.3	73.3	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	81
1093_High_ECZ_100	51.8	51.8	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	68

1093_High_HTZ_100	5.3	5.3	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1093_Moderate_TCZ_100	53.2	53.2	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1093_Low_TCZ_100	33.4	33.4	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	10
1093_Low_ECZ_100	28.0	28.0	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1093_Low_HTZ_100	1.2	1.2	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1151_Veryhigh_TCZ_100	81.4	81.4	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	48
1151_Veryhigh_ECZ_100	60.6	60.6	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	83

1151_Veryhigh_HTZ_100	26.5	26.5	0.95	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	13
1151_High_TCZ_100	77.1	77.1	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	48
1151_High_ECZ_100	58.4	58.4	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	75
1151_High_HTZ_100	23.6	23.6	0.66	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	8
1151_Moderate_TCZ_100	48.4	48.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
1151_Moderate_ECZ_100	43.6	43.6	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12
1151_Moderate_HTZ_100	37.2	37.2	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2

1330_High_TCZ_100	81.1	81.1	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	55
1330_High_ECZ_100	60.9	60.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	68
1330_High_HTZ_100	9.2	9.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Low_TCZ_100	53.4	53.4	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
1330_Low_ECZ_100	40.1	40.1	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Low_HTZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**666**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
280_Moderate_TCZ_100	42.0	42.0	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	14
280_Moderate_ECZ_100	27.6	27.6	0.67	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
280_Moderate_HTZ_100	11.6	11.6	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Moderate_HTZ_100	18.2	18.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
727_Veryhigh_TCZ_100	86.0	86.0	0.77	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	33
727_Veryhigh_ECZ_100	65.6	65.6	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
727_Veryhigh_HTZ_100	20.2	20.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
727_Moderate_TCZ_100	50.3	50.3	0.53	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13

727_Moderate_TCZ_5	50.3	50.3	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
727_Moderate_ECZ_100	42.3	42.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
727_Moderate_ECZ_5	42.3	42.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
727_Moderate_HTZ_5	3.9	3.9	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Moderate_TCZ_100	68.3	68.3	0.52	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	18
731_Moderate_ECZ_100	48.5	48.5	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	29

731_Moderate_HTZ_100	0.6	0.6	0.17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	1.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	62
1093_High_ECZ_100	51.8	51.8	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	54
1093_High_HTZ_100	5.3	5.3	0.59	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1093_Moderate_TCZ_100	53.2	53.2	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
1093_Moderate_ECZ_100	42.2	42.2	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

1093_Moderate_HTZ_100	2.5	2.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	33.4	33.4	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	28.0	28.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	1.2	1.2	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1151_Veryhigh_TCZ_100	81.4	81.4	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	48
1151_Veryhigh_ECZ_100	60.6	60.6	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	83

1151_Veryhigh_HTZ_100	26.5	26.5	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
1151_High_TCZ_100	77.1	77.1	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	48
1151_High_ECZ_100	58.4	58.4	2.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	75
1151_High_HTZ_100	23.6	23.6	0.66	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
1151_Moderate_TCZ_100	48.4	48.4	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
1151_Moderate_ECZ_100	43.6	43.6	0.53	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	12

1151_Moderate_HTZ_100	37.2	37.2	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1330_High_TCZ_100	81.1	81.1	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
1330_High_ECZ_100	60.9	60.9	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	40
1330_High_HTZ_100	9.2	9.2	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	53.4	53.4	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Low_ECZ_100	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3

1330_Low_HTZ_100	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**622**
Commersonia prostrata / Dwarf Kerrawang (Flora)									
1191_Low_TCZ_100	5.5	5.5	0.74	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Endangered	False	2
1191_Low_ECZ_100	5.2	5.2	0.01	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Endangered	Endangered	False	1
								Subtotal	**3**
Delma impar / Striped Legless Lizard (Fauna)									
1330_High_TCZ_100	81.1	81.1	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	66
1330_High_ECZ_100	60.9	60.9	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	64

1330_High_HTZ_100	9.2	9.2	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1330_Low_TCZ_100	53.4	53.4	7.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	156
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	40.1	40.1	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	29
1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1330_Low_HTZ_100	25.3	25.3	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2

1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_TCZ_100	1.1	1.1	15.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6
1330_Verylow_TCZ_25-100	1.1	1.1	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_100	0.5	0.5	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_25-100	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

1330_Verylow_HTZ_25-100	0.0	0.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**334**
Diuris aequalis / Buttercup Doubletail (Flora)									
731_High_TCZ_100	81.8	81.8	0.52	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	21
731_High_ECZ_100	66.2	66.2	0.06	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	2
731_High_HTZ_100	22.8	22.8	0.07	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
731_Moderate_TCZ_100	68.3	68.3	1.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	38

731_Moderate_ECZ_100	48.5	48.5	1.5	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	36
731_Moderate_HTZ_100	0.6	0.6	0.27	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
731_Low_TCZ_100	18.7	18.7	2.4	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	22
731_Low_ECZ_100	11.0	11.0	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_High_TCZ_100	73.3	73.3	2.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	95
1093_High_ECZ_100	51.8	51.8	3	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	78

1093_High_HTZ_100	5.3	5.3	0.97	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	3
1093_Moderate_TCZ_100	53.2	53.2	0.26	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	7
1093_Moderate_TCZ_5	53.2	53.2	0.03	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Moderate_ECZ_100	42.2	42.2	0.24	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	5
1093_Moderate_HTZ_100	2.5	2.5	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Low_TCZ_100	33.4	33.4	1.9	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	31

1093_Low_ECZ_100	28.0	28.0	0.06	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Low_ECZ_5	28.0	28.0	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Low_HTZ_100	1.2	1.2	0.09	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Verylow_TCZ_100	5.2	5.2	2.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	6
1093_Verylow_ECZ_100	2.3	2.3	0.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1093_Verylow_HTZ_100	0.0	0.0	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	0

1151_Veryhigh_TCZ_100	81.4	81.4	1.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	48
1151_Veryhigh_ECZ_100	60.6	60.6	2.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	83
1151_Veryhigh_HTZ_100	26.5	26.5	0.95	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	13
1151_High_TCZ_100	77.1	77.1	0.07	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	3
1151_High_ECZ_100	58.4	58.4	0.05	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1151_High_HTZ_100	23.6	23.6	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1

1151_Moderate_TCZ_100	48.4	48.4	0.23	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	6
1151_Moderate_ECZ_100	43.6	43.6	0.39	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	8
1151_Moderate_HTZ_100	37.2	37.2	0.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	2
1151_Low_TCZ_100	25.6	25.6	0.26	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	3
1151_Low_ECZ_100	23.4	23.4	0.09	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
1151_Low_HTZ_100	1.4	1.4	0.09	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1

1191_Low_TCZ_100	5.5	5.5	1.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	3
1191_Low_ECZ_100	5.2	5.2	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Vulnerable	False	1
								Subtotal	**527**
Eucalyptus aggregata / Black Gum (Flora)									
1191_Low_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
								Subtotal	**2**
Eucalyptus robertsonii subsp. hemisphaerica / Robertson's Peppermint (Flora)									
727_Moderate_TCZ_5	N/A	N/A	1	Geographic Distribution	Ability to colonise improved habitat	Vulnerable	Vulnerable	True	3
								Subtotal	**3**

Haliaeetus leucogaster / White-bellied Sea-Eagle (Fauna)									
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
								Subtotal	**1**
Hieraaetus morphnoides / Little Eagle (Fauna)									
280_Moderate_TCZ_100	42.0	42.0	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
280_Moderate_ECZ_100	27.6	27.6	0.67	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
280_Moderate_HTZ_100	11.6	11.6	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13

283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
283_Moderate_ECZ_100	34.2	34.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
283_Moderate_HTZ_100	18.2	18.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Low_TCZ_100	75.7	75.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

679_High_ECZ_100	62.1	62.1	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
679_High_HTZ_100	17.5	17.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
679_Moderate_ECZ_100	16.8	16.8	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
679_Moderate_HTZ_100	0.0	0.0	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
727_Veryhigh_TCZ_100	86.0	86.0	0.82	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	26
727_Veryhigh_ECZ_100	65.6	65.6	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

727_Veryhigh_HTZ_100	20.2	20.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
727_Moderate_TCZ_100	50.3	50.3	0.53	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
727_Moderate_TCZ_5	50.3	50.3	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
727_Moderate_ECZ_100	42.3	42.3	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
727_Moderate_ECZ_5	42.3	42.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
727_Moderate_HTZ_5	3.9	3.9	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

731_High_TCZ_100	81.8	81.8	0.52	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	16
731_High_ECZ_100	66.2	66.2	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_High_HTZ_100	22.8	22.8	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Moderate_TCZ_100	68.3	68.3	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	39
731_Moderate_ECZ_100	48.5	48.5	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	32
731_Moderate_HTZ_100	0.6	0.6	0.27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

952_Moderate_TCZ_100	45.2	45.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
952_Low_TCZ_100	40.8	40.8	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1093_High_TCZ_100	73.3	73.3	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	82
1093_High_ECZ_100	51.8	51.8	3.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	60
1093_High_HTZ_100	5.3	5.3	0.98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1093_Moderate_TCZ_100	53.2	53.2	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

1093_Moderate_ECZ_100	42.2	42.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
1093_Moderate_HTZ_100	2.5	2.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	33.4	33.4	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
1093_Low_ECZ_100	28.0	28.0	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_ECZ_5	28.0	28.0	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	1.2	1.2	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1191_Low_TCZ_100	5.5	5.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1191_Low_ECZ_100	5.2	5.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_High_TCZ_100	81.1	81.1	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	66
1330_High_ECZ_100	60.9	60.9	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	64
1330_High_HTZ_100	9.2	9.2	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1330_Low_TCZ_100	53.4	53.4	2.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	54

1330_Low_ECZ_100	40.1	40.1	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	27
1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1330_Low_HTZ_100	25.3	25.3	0.17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**578**
Keyacris scurra / Key's Matchstick Grasshopper (Fauna)									
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	17

283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.16	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
283_Moderate_ECZ_100	34.2	34.2	0.24	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	4
283_Moderate_HTZ_100	18.2	18.2	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_Low_TCZ_100	75.7	75.7	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_Verylow_TCZ_100	2.2	2.2	1.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2

283_Verylow_ECZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_High_TCZ_100	81.1	81.1	2.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	88
1330_High_ECZ_100	60.9	60.9	2.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	85
1330_High_HTZ_100	9.2	9.2	0.69	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3
1330_Low_TCZ_100	53.4	53.4	7.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	208
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Low_ECZ_100	40.1	40.1	1.9	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	38

1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3
1330_Low_HTZ_100	25.3	25.3	0.18	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2
1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Verylow_TCZ_100	1.1	1.1	15.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	8
1330_Verylow_TCZ_25-100	1.1	1.1	2.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Verylow_ECZ_100	0.5	0.5	0.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Verylow_ECZ_25-100	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1

1330_Verylow_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Verylow_HTZ_25-100	0.0	0.0	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**481**
Lepidium hyssopifolium / Aromatic Peppercress (Flora)									
280_Moderate_TCZ_100	42.0	42.0	0.15	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	3
280_Moderate_ECZ_100	27.6	27.6	0.19	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	3
280_Moderate_HTZ_100	11.6	11.6	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1

280_Low_TCZ_100	10.4	10.4	0.11	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
280_Low_ECZ_100	4.9	4.9	0.09	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
280_Low_HTZ_100	0.0	0.0	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	17
283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1

283_Moderate_TCZ_100	61.7	61.7	0.16	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	5
283_Moderate_ECZ_100	34.2	34.2	0.24	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	4
283_Moderate_HTZ_100	18.2	18.2	0.05	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
283_Low_TCZ_100	75.7	75.7	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
283_Verylow_TCZ_100	2.2	2.2	1.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	2
283_Verylow_ECZ_100	0.9	0.9	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1

1330_High_TCZ_100	81.1	81.1	2.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	88
1330_High_ECZ_100	60.9	60.9	2.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	85
1330_High_HTZ_100	9.2	9.2	0.69	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	3
1330_Low_TCZ_100	53.4	53.4	7.4	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	197
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
1330_Low_ECZ_100	40.1	40.1	1.9	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	38

1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	3
1330_Low_HTZ_100	25.3	25.3	0.18	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	2
1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
1330_Verylow_TCZ_100	1.1	1.1	14.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	8
1330_Verylow_TCZ_25-100	1.1	1.1	2.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
1330_Verylow_ECZ_100	0.5	0.5	0.3	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1

1330_Verylow_ECZ_25-100	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
1330_Verylow_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
1330_Verylow_HTZ_25-100	0.0	0.0	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	1
								Subtotal	**480**
Leucochrysum albicans subsp. tricolor / Hoary Sunray (Flora)									
679_Moderate_ECZ_100	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18
679_Moderate_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2

679_Low_TCZ_100	N/A	N/A	30	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	60
679_Low_ECZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
727_Veryhigh_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
727_Moderate_TCZ_100	N/A	N/A	25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	50
727_Moderate_TCZ_5	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18
727_Moderate_ECZ_5	N/A	N/A	15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	30

727_Moderate_HTZ_5	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
727_Verylow_TCZ_100	N/A	N/A	91	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	182
731_High_TCZ_100	N/A	N/A	10	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	20
731_High_HTZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
731_Moderate_TCZ_100	N/A	N/A	27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	54
731_Moderate_ECZ_100	N/A	N/A	12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	24

731_Moderate_HTZ_100	N/A	N/A	6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
731_Low_TCZ_100	N/A	N/A	11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
952_Moderate_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
952_Verylow_TCZ_100	N/A	N/A	112	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	224
1093_High_TCZ_100	N/A	N/A	80	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	160
1093_High_ECZ_100	N/A	N/A	46	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	92

1093_High_HTZ_100	N/A	N/A	20	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	40
1093_Moderate_TCZ_100	N/A	N/A	12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	24
1093_Moderate_TCZ_5	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1093_Moderate_ECZ_100	N/A	N/A	13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
1093_Moderate_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1093_Low_TCZ_100	N/A	N/A	68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	136

1093_Low_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1093_Verylow_TCZ_100	N/A	N/A	145	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	290
1093_Verylow_ECZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
1191_Low_TCZ_100	N/A	N/A	69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	138
1191_Low_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_High_TCZ_100	N/A	N/A	123	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	246

1330_High_ECZ_100	N/A	N/A	49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	98
1330_High_HTZ_100	N/A	N/A	15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	30
1330_Low_TCZ_100	N/A	N/A	324	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	648
1330_Low_TCZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Low_ECZ_100	N/A	N/A	137	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	274
1330_Low_HTZ_100	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18

1330_Verylow_TCZ_100	N/A	N/A	1370	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2740
1330_Verylow_TCZ_25-100	N/A	N/A	79	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	158
1330_Verylow_ECZ_100	N/A	N/A	26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	52
1330_Verylow_HTZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
								Subtotal	**5956**
Litoria castanea / Yellow-spotted Tree Frog (Fauna)									
335_High_TCZ_100	84.4	84.4	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	39

1256_Low_TCZ_100	27.8	27.8	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	3
1256_Low_ECZ_100	0.0	0.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	0
								Subtotal	**42**
Ninox strenua / Powerful Owl (Fauna)									
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	17
283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_Moderate_ECZ_100	34.2	34.2	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4

283_Moderate_HTZ_100	18.2	18.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
727_Veryhigh_TCZ_100	86.0	86.0	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
727_Veryhigh_ECZ_100	65.6	65.6	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
727_Veryhigh_HTZ_100	20.2	20.2	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
727_Moderate_TCZ_100	50.3	50.3	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
727_Moderate_ECZ_100	42.3	42.3	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
731_High_TCZ_100	81.8	81.8	0.52	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	21

731_High_ECZ_100	66.2	66.2	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
731_High_HTZ_100	22.8	22.8	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
731_Moderate_TCZ_100	68.3	68.3	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	40
731_Moderate_ECZ_100	48.5	48.5	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	33
731_Moderate_HTZ_100	0.6	0.6	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_High_TCZ_100	73.3	73.3	2.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	87
1093_High_ECZ_100	51.8	51.8	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68

1093_High_HTZ_100	5.3	5.3	0.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Moderate_TCZ_100	53.2	53.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Moderate_ECZ_100	42.2	42.2	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1093_Low_TCZ_100	33.4	33.4	0.58	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
1093_Low_ECZ_100	28.0	28.0	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	1.2	1.2	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1151_Veryhigh_TCZ_100	81.4	81.4	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	48

1151_Veryhigh_ECZ_100	60.6	60.6	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	83
1151_Veryhigh_HTZ_100	26.5	26.5	0.95	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
1151_High_TCZ_100	77.1	77.1	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	48
1151_High_ECZ_100	58.4	58.4	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	75
1151_High_HTZ_100	23.6	23.6	0.66	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
1151_Moderate_TCZ_100	48.4	48.4	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
1151_Moderate_ECZ_100	43.6	43.6	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12

1151_Moderate_HTZ_100	37.2	37.2	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_High_TCZ_100	81.1	81.1	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	55
1330_High_ECZ_100	60.9	60.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68
1330_High_HTZ_100	9.2	9.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
1330_Low_TCZ_100	53.4	53.4	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	5
1330_Low_ECZ_100	40.1	40.1	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Low_HTZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**787**

Petauroides volans / Southern Greater Glider (Fauna)									
731_Moderate_TCZ_100	68.3	68.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
731_Moderate_ECZ_100	48.5	48.5	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	11
731_Moderate_HTZ_100	0.6	0.6	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1093_High_ECZ_100	51.8	51.8	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	3
1330_High_TCZ_100	81.1	81.1	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	29
1330_High_ECZ_100	60.9	60.9	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	59
1330_High_HTZ_100	9.2	9.2	0.46	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2

1330_Low_TCZ_100	53.4	53.4	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	4
1330_Low_ECZ_100	40.1	40.1	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2
1330_Low_HTZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
								Subtotal	**113**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	17
283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

283_Moderate_ECZ_100	34.2	34.2	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
283_Moderate_HTZ_100	18.2	18.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
731_Moderate_TCZ_100	68.3	68.3	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
731_Moderate_ECZ_100	48.5	48.5	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	18
731_Moderate_HTZ_100	0.6	0.6	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	53.2	53.2	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
1093_Low_TCZ_100	33.4	33.4	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1093_Low_ECZ_100	28.0	28.0	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	1.2	1.2	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1151_Veryhigh_TCZ_100	81.4	81.4	0.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28
1151_Veryhigh_ECZ_100	60.6	60.6	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	52
1151_Veryhigh_HTZ_100	26.5	26.5	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
1151_High_TCZ_100	77.1	77.1	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	48
1151_High_ECZ_100	58.4	58.4	2.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	75

1151_High_HTZ_100	23.6	23.6	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
1330_High_TCZ_100	81.1	81.1	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	55
1330_High_ECZ_100	60.9	60.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	68
1330_High_HTZ_100	9.2	9.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
1330_Low_TCZ_100	53.4	53.4	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	5
1330_Low_ECZ_100	40.1	40.1	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3

1330_Low_HTZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**425**
Phascolarctos cinereus / Koala (Fauna)									
280_Moderate_TCZ_100	42.0	42.0	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
280_Moderate_ECZ_100	27.6	27.6	0.67	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	9
280_Moderate_HTZ_100	11.6	11.6	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	17
283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
283_Moderate_TCZ_100	61.7	61.7	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
283_Moderate_ECZ_100	34.2	34.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
283_Moderate_HTZ_100	18.2	18.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

283_Low_TCZ_100	75.7	75.7	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
679_High_ECZ_100	62.1	62.1	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
679_High_HTZ_100	17.5	17.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
679_Moderate_ECZ_100	16.8	16.8	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
679_Moderate_HTZ_100	0.0	0.0	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	0
727_Veryhigh_TCZ_100	86.0	86.0	0.82	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	35

727_Veryhigh_ECZ_100	65.6	65.6	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
727_Veryhigh_HTZ_100	20.2	20.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
727_Moderate_TCZ_100	50.3	50.3	0.53	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	13
727_Moderate_TCZ_5	50.3	50.3	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
727_Moderate_ECZ_100	42.3	42.3	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
727_Moderate_ECZ_5	42.3	42.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3

727_Moderate_HTZ_5	3.9	3.9	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
731_High_TCZ_100	81.8	81.8	0.52	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	21
731_High_ECZ_100	66.2	66.2	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
731_High_HTZ_100	22.8	22.8	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
731_Moderate_TCZ_100	68.3	68.3	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	52
731_Moderate_ECZ_100	48.5	48.5	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	43

731_Moderate_HTZ_100	0.6	0.6	0.27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
952_Moderate_TCZ_100	45.2	45.2	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
952_Moderate_ECZ_100	37.8	37.8	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
952_Low_TCZ_100	40.8	40.8	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
952_Low_ECZ_100	35.0	35.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_High_TCZ_100	73.3	73.3	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	110

1093_High_ECZ_100	51.8	51.8	3.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	80
1093_High_HTZ_100	5.3	5.3	0.98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1093_Moderate_TCZ_100	53.2	53.2	0.26	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
1093_Moderate_TCZ_5	53.2	53.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Moderate_ECZ_100	42.2	42.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
1093_Moderate_HTZ_100	2.5	2.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1093_Low_TCZ_100	33.4	33.4	0.71	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
1093_Low_ECZ_100	28.0	28.0	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Low_ECZ_5	28.0	28.0	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Low_HTZ_100	1.2	1.2	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1151_Veryhigh_TCZ_100	81.4	81.4	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	48
1151_Veryhigh_ECZ_100	60.6	60.6	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	83

1151_Veryhigh_HTZ_100	26.5	26.5	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	13
1151_High_TCZ_100	77.1	77.1	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	48
1151_High_ECZ_100	58.4	58.4	2.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	75
1151_High_HTZ_100	23.6	23.6	0.66	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
1151_Moderate_TCZ_100	48.4	48.4	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1151_Moderate_ECZ_100	43.6	43.6	0.53	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12

1151_Moderate_HTZ_100	37.2	37.2	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1191_Low_TCZ_100	5.5	5.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1191_Low_ECZ_100	5.2	5.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_High_TCZ_100	81.1	81.1	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	88
1330_High_ECZ_100	60.9	60.9	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	85
1330_High_HTZ_100	9.2	9.2	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3

1330_Low_TCZ_100	53.4	53.4	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	74
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Low_ECZ_100	40.1	40.1	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	36
1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1330_Low_HTZ_100	25.3	25.3	0.17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

								Subtotal	1073
Polytelis swainsonii / Superb Parrot (Fauna)									
280_Moderate_TCZ_100	42.0	42.0	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	14
280_Moderate_ECZ_100	27.6	27.6	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	9
280_Moderate_HTZ_100	11.6	11.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_High_TCZ_100	79.8	79.8	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	17
283_High_ECZ_100	45.9	45.9	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7
283_High_HTZ_100	7.2	7.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

283_Moderate_ECZ_100	34.2	34.2	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
283_Moderate_HTZ_100	18.2	18.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_High_TCZ_100	81.1	81.1	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	55
1330_High_ECZ_100	60.9	60.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	68
1330_High_HTZ_100	9.2	9.2	0.55	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Low_TCZ_100	53.4	53.4	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
1330_Low_ECZ_100	40.1	40.1	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2

1330_Low_ECZ_5	40.1	40.1	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Low_HTZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_HTZ_5	25.3	25.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**192**
Thesium australe / Austral Toadflax (Flora)									
679_High_ECZ_100	62.1	62.1	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
679_High_HTZ_100	17.5	17.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
679_Moderate_ECZ_100	16.8	16.8	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

679_Moderate_HTZ_100	0.0	0.0	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	0
679_Low_TCZ_100	54.4	54.4	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	7
679_Low_ECZ_100	21.2	21.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1191_Low_TCZ_100	5.5	5.5	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1191_Low_ECZ_100	5.2	5.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_High_TCZ_100	81.1	81.1	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	62

1330_High_ECZ_100	60.9	60.9	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	48
1330_High_HTZ_100	9.2	9.2	0.56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1330_Low_TCZ_100	53.4	53.4	4.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	92
1330_Low_TCZ_5	53.4	53.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	40.1	40.1	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	22
1330_Low_HTZ_100	25.3	25.3	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

1330_Verylow_TCZ_100	1.1	1.1	15.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6
1330_Verylow_TCZ_25-100	1.1	1.1	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_100	0.5	0.5	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_ECZ_25-100	0.5	0.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_HTZ_100	0.0	0.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_HTZ_25-100	0.0	0.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

								Subtotal	**253**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029442	6699 Humelink Assessment - Crookwell	22/06/2023
Assessor Name	Report Created	BAM Data version *
Simon Tweed	18/08/2023	61
Assessor Number	Assessment Type	BAM Case Status
BAAS17040	Major Projects	Finalised
Assessment Revision		Date Finalised
4		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Australasian Bittern	Botaurus poiciloptilus	1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
Australian Painted Snipe	Rostratula australis	1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
Black Falcon	Falco subniger	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Diamond Firetail	Stagonopleura guttata	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Dusky Woodswallow	Artamus cyanopterus cyanopterus	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Eastern False Pipistrelle	Falsistrellus tasmaniensis	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Eastern False Pipistrelle	Falsistrellus tasmaniensis	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Flame Robin	Petroica phoenicea	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion

Flame Robin	Petroica phoenicea	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Gang-gang Cockatoo	Callocephalon fimbriatum	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Glossy Black-Cockatoo	Calyptorhynchus lathami	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Greater Broad-nosed Bat	Scoteanax rueppellii	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Grey-headed Flying-fox	Pteropus poliocephalus	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Large Bent-winged Bat	Miniopterus orianae oceanensis	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Eagle	Hieraaetus morphnoides	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion

Little Eagle	Hieraaetus morphnoides	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Lorikeet	Glossopsitta pusilla	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Whip Snake	Suta flagellum	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Painted Honeyeater	Grantiella picta	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Powerful Owl	Ninox strenua	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Regent Honeyeater	Anthochaera phrygia	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Regent Honeyeater	Anthochaera phrygia	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Rosenberg's Goanna	Varanus rosenbergi	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Scarlet Robin	Petroica boodang	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Scarlet Robin	Petroica boodang	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Speckled Warbler	Chthonicola sagittata	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Spotted Harrier	Circus assimilis	335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Spotted Harrier	Circus assimilis	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Superb Parrot	Polytelis swainsonii	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Varied Sittella	Daphoenositta chrysoptera	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

White-bellied Sea-Eagle	Haliaeetus leucogaster	1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
White-fronted Chat	Epthianura albifrons	1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
White-throated Needletail	Hirundapus caudacutus	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Yellow-bellied Glider	Petaurus australis	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029442

Assessment name
6699 Humelink Assessment - Crookwell

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

Assessment Type
Major Projects

BAM Case Status
Finalised

Assessment Revision
4

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	280_Moderate_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.65	1	

2	280_Moderate_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.67	1	
3	280_Moderate_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.22	1	
4	280_Low_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_TCZ_100	0.11	1	
5	280_Low_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.09	1	
6	280_Low_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_HTZ_100	0.02	1	
7	283_High_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	High_TCZ_100	0.42	1	

8	283_High_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	High_ECZ_100	0.31	1	
9	283_High_HTZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	High_HTZ_100	0.12	1	
10	283_Moderate_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.16	1	
11	283_Moderate_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.24	1	
12	283_Moderate_HTZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.05	1	
13	283_Low_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Low_TCZ_100	0.01	1	

14	283_Verylow_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Verylow_TCZ_100	1.83	1	
15	283_Verylow_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Verylow_ECZ_100	0.02	1	
16	335_High_TCZ_100	335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	High_TCZ_100	0.61	1	
17	679_High_ECZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_ECZ_100	0.05		
18	679_High_HTZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_HTZ_100	0.01		
19	679_Moderate_ECZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Moderate_ECZ_100	0.1		

20	679_Moderate_HTZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Moderate_HTZ_100	0.01		
21	679_Low_TCZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_TCZ_100	0.33		
22	679_Low_ECZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_ECZ_100	0.05		
23	727_Veryhigh_TCZ_100	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Veryhigh_TCZ_100	0.82	1	
24	727_Veryhigh_ECZ_100	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Veryhigh_ECZ_100	0.2	1	
25	727_Veryhigh_HTZ_100	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.07	1	
26	727_Moderate_TCZ_100	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Moderate_TCZ_100	0.53	1	

27	727_Moderate_TCZ_5	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Moderate_TCZ_5	0.09	1	
28	727_Moderate_ECZ_100	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Moderate_ECZ_100	0.16	1	
29	727_Moderate_ECZ_5	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Moderate_ECZ_5	0.16	1	
30	727_Moderate_HTZ_5	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Moderate_HTZ_5	0.04	1	
31	727_Verylow_TCZ_100	727-Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion	Verylow_TCZ_100	1.25	1	
32	731_High_TCZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	High_TCZ_100	0.52	1	
33	731_High_ECZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	High_ECZ_100	0.06	1	

34	731_High_HTZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	High_HTZ_100	0.07	1	
35	731_Moderate_TCZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Moderate_TCZ_100	1.53	1	
36	731_Moderate_ECZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Moderate_ECZ_100	1.78	1	
37	731_Moderate_HTZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Moderate_HTZ_100	0.27	1	
38	731_Low_TCZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Low_TCZ_100	2.39	2	
39	731_Low_ECZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Low_ECZ_100	0.01	1	

40	952_Moderate_TCZ_100	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Moderate_TCZ_100	0.33	1	
41	952_Moderate_ECZ_100	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Moderate_ECZ_100	0.08	1	
42	952_Low_TCZ_100	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Low_TCZ_100	0.31	1	
43	952_Low_ECZ_100	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Low_ECZ_100	0.08	1	
44	952_Verylow_TCZ_100	952-Mountain Gum - Narrow-leaved Peppermint - Snow Gum dry shrubby open forest on undulating tablelands, southern South Eastern Highlands Bioregion	Verylow_TCZ_100	2.28	2	

45	1093_High_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_TCZ_100	2.99	2	
46	1093_High_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_ECZ_100	3.1	2	
47	1093_High_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_HTZ_100	0.98	1	
48	1093_Moderate_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_TCZ_100	0.26	1	
49	1093_Moderate_TCZ_5	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_TCZ_5	0.03	1	
50	1093_Moderate_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_ECZ_100	0.24	1	

51	1093_Moderate_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_HTZ_100	0.02	1	
52	1093_Low_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_TCZ_100	1.95	1	
53	1093_Low_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_ECZ_100	0.1	1	
54	1093_Low_ECZ_5	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_ECZ_5	0.01	1	
55	1093_Low_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_HTZ_100	0.09	1	
56	1093_Verylow_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Verylow_TCZ_100	2.19	2	

57	1093_Verylow_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Verylow_ECZ_100	0.1	1	
58	1093_Verylow_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Verylow_HTZ_100	0.01	1	
59	1151_Veryhigh_TCZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Veryhigh_TCZ_100	1.18	1	
60	1151_Veryhigh_ECZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Veryhigh_ECZ_100	2.75	2	
61	1151_Veryhigh_HTZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.95	1	
62	1151_High_TCZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	High_TCZ_100	1.24	1	
63	1151_High_ECZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	High_ECZ_100	2.57	2	

64	1151_High_HTZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	High_HTZ_100	0.66	1	
65	1151_Moderate_TCZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Moderate_TCZ_100	0.23	1	
66	1151_Moderate_ECZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Moderate_ECZ_100	0.54	1	
67	1151_Moderate_HTZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Moderate_HTZ_100	0.13	1	
68	1151_Low_TCZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Low_TCZ_100	0.28	1	
69	1151_Low_ECZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Low_ECZ_100	0.09	1	
70	1151_Low_HTZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Low_HTZ_100	0.09	1	
71	1151_Verylow_TCZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Verylow_TCZ_100	0.02	1	

72	1151_Verylow_ECZ_100	1151-Silvertop Ash - Broad-leaved Peppermint dry shrub forest of the South Eastern Highlands Bioregion	Verylow_ECZ_100	0.08	1	
73	1191_Low_TCZ_100	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Low_TCZ_100	1.14		
74	1191_Low_ECZ_100	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Low_ECZ_100	0.01		
75	1256_Low_TCZ_100	1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	Low_TCZ_100	0.16	1	
76	1256_Low_ECZ_100	1256-Tableland swamp meadow on impeded drainage sites of the western Sydney Basin Bioregion and South Eastern Highlands Bioregion	Low_ECZ_100	0.03	1	
77	1330_High_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	High_TCZ_100	2.18	2	
78	1330_High_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	High_ECZ_100	2.81	2	

79	1330_High_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	High_HTZ_100	0.69	1	
80	1330_Low_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_TCZ_100	7.79	3	
81	1330_Low_TCZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_TCZ_5	0.01	1	
82	1330_Low_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_ECZ_100	1.91	1	
83	1330_Low_ECZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_ECZ_5	0.13	1	
84	1330_Low_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_HTZ_100	0.18	1	
85	1330_Low_HTZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_HTZ_5	0.01	1	
86	1330_Verylow_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_TCZ_100	15.26	3	

87	1330_Verylow_TCZ_25-100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_TCZ_25-100	2.15	2	
88	1330_Verylow_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_ECZ_100	0.3	1	
89	1330_Verylow_ECZ_25-100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_ECZ_25-100	0.02	1	
90	1330_Verylow_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_HTZ_100	0.04	1	
91	1330_Verylow_HTZ_25-100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_HTZ_25-100	0.02	1	

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029446

Proposal Name
6699 Humelink Assessment - Inland Slopes

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Name(s)
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
5

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Species
Caladenia concolor / Crimson Spider Orchid
Grevillea wilkinsonii / Tumut Grevillea
Zieria obcordata / Granite Zieria
Bossiaea fragrans / Bossiaea fragrans
Euphrasia arguta / Euphrasia arguta
Prasophyllum sp. Wybong / Prasophyllum sp. Wybong

Additional Information for Approval

PCT Outside Ibra Added

PCT
5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

BAM Biodiversity Credit Report (Variations)

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	Not a TEC	2.6	20	7	27.00
266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.7	275	36	311.00
268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	16.9	287	222	509.00
277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	70.1	1129	0	1129.00

5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_High_TCZ_100	Yes	5	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_High_EZ_100	Yes	12	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_High_HTZ_100	Yes	3	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_Low_TCZ_100	No	6	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_Low_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Forested Wetlands	Tier 4 or higher threat status	5_High_TCZ_100	Yes (including artificial)	5	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Forested Wetlands	Tier 4 or higher threat status	5_High_ECZ_100	Yes (including artificial)	12	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Forested Wetlands	Tier 4 or higher threat status	5_High_HTZ_100	Yes (including artificial)	3	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Forested Wetlands	Tier 4 or higher threat status	5_Low_TCZ_100	No	6	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Forested Wetlands	Tier 4 or higher threat status	5_Low_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599,	-	266_High_TCZ_100	Yes	206	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	266_High_ECZ_100	Yes	63	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	266_High_HTZ_100	Yes	6	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	266_Moderate_TCZ_100	No	32	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland,	-	266_Moderate_ECZ_100	No	3	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy	-	266_Moderate_HTZ_1	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley,

	Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406,		00			Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693,	-	266_Low_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847,	-	266_Low_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	266_Low_HTZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	268_High_TCZ_100	Yes	254	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	268_High_ECZ_100	Yes	28	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland,	-	268_High_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy	-	268_Moderate_TCZ_10	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley,

	Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406,		0			Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693,	-	268_Moderate_ECZ_100	Yes	2	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847,	-	268_Moderate_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	268_Low_TCZ_100	No	203	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	268_Low_ECZ_100	No	16	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	268_Low_ECZ_5	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	268_Low_HTZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	268_Low_HTZ_5	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,	-	277_High_TCZ_100	Yes	92	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	277_High_ECZ_100	Yes	36	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	277_High_HTZ_100	Yes	9	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381,	-	277_Moderate_TCZ_100	Yes	54	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	277_Moderate_ECZ_100	Yes	16	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	277_Moderate_HTZ_100	Yes	4	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the	-	277_Low_TCZ_100	Yes	105	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman,

	NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387,	-	277_Low_TCZ_5	Yes	18	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329,	-	277_Low_ECZ_100	Yes	40	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	277_Low_ECZ_5	Yes	6	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_Low_HTZ_100	Yes	6	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	277_Low_HTZ_5	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	277_Verylow_TCZ_100	Yes	722	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	277_Verylow_TCZ_5-25	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived	-	277_Verylow_TCZ_5	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower

	Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149,					Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359,	-	277_Verylow_ECZ_100	Yes	15	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	277_Verylow_ECZ_5	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599,	-	277_Verylow_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	277_Verylow_HTZ_5	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia ausfeldii / Ausfeld's Wattle	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100**	14.6	383.00

Ammobium craspedioides / Yass Daisy	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_Moderate_ECZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_ECZ_100,** **277_Verylow_HTZ_100**	587.0	1174.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_ECZ_100, 277_Verylow_HTZ_100**	46.5	511.00
Bossiaea fragrans / Bossiaea fragrans	**268_High_TCZ_100, 268_High_ECZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_ECZ_5, 268_Low_HTZ_100, 268_Low_HTZ_5**	6.1	175.00

Burhinus grallarius / Bush Stone-curlew	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5**	31.1	542.00
Caladenia concolor / Crimson Spider Orchid	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100**	5.8	319.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_ECZ_100,** **277_Low_HTZ_100**	28.3	597.00

Calyptorhynchus lathami / Glossy Black-Cockatoo	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100**	9.7	185.00
Cercartetus nanus / Eastern Pygmy-possum	**268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100**	1.7	36.00
Crinia sloanei / Sloane's Froglet	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100**	2.6	27.00

Cullen parvum / Small Scurf-pea	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,** **277_Verylow_HTZ_5**	71.7	916.00

Delma impar / Striped Legless Lizard	**277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5**	70.1	680.00

Euphrasia arguta / Euphrasia arguta	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,** **277_Verylow_HTZ_5**	87.3	1425.00

Grevillea wilkinsonii / Tumut Grevillea	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100**	27.5	400.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100**	6.2	55.00

Hieraaetus morphnoides / Little Eagle	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,**	41.5	631.00

	277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5		

Keyacris scurra / Key's Matchstick Grasshopper	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5**	102.8	1185.00

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_ECZ_5, 268_Low_HTZ_100, 268_Low_HTZ_5**	600.0	1200.00

Lophoictinia isura / Square-tailed Kite	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,**	41.5	631.00

	277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5		
Myotis macropus / Southern Myotis	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100**	2.4	34.00
Ninox connivens / Barking Owl	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100,**	28.2	596.00

	277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100		
Ninox strenua / Powerful Owl	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100**	2.5	35.00

Petaurus norfolcensis / Squirrel Glider	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_ECZ_100,**	28.5	601.00

	277_Low_HTZ_100		

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100, 266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100,**	28.5	601.00

	277_Low_HTZ_100		

Phascolarctos cinereus / Koala	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,**	45.5	891.00

	277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5		
Polytelis swainsonii / Superb Parrot	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100, 266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100**	22.6	427.00

Prasophyllum petilum / Tarengo Leek Orchid	**277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5**	13.2	241.00

Prasophyllum sp. Wybong / Prasophyllum sp. Wybong	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5**	87.8	1574.00

Pultenaea humilis / Dwarf Bush-pea	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100**	1.0	38.00

Swainsona recta / Small Purple-pea	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,**	91.2	1146.00

	277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5		

Swainsona sericea / Silky Swainson-pea	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5**	84.5	1009.00

Synemon plana / Golden Sun Moth	**5_Low_TCZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 277_Verylow_TCZ_100, 277_Verylow_ECZ_100**	19.4	117.00
Tyto novaehollandiae / Masked Owl	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100**	19.0	378.00

Zieria obcordata / Granite Zieria	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100**	8.1	265.00

Credit Retirement Options

Like-for-like options

Acacia ausfeldii/ Ausfeld's Wattle

Spp	IBRA region
Acacia ausfeldii/Ausfeld's Wattle	Any in NSW

Variation options

Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ammobium craspedioides/ Yass Daisy	Spp	IBRA region	
	Ammobium craspedioides/Yass Daisy	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Aprasia parapulchella/ Pink-tailed Legless Lizard	Spp		IBRA region
	Aprasia parapulchella/Pink-tailed Legless Lizard		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Bossiaea fragrans/ Bossiaea fragrans	Spp		IBRA region
	Bossiaea fragrans/Bossiaea fragrans *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*		Any in NSW
Burhinus grallarius/ Bush Stone-curlew	Spp		IBRA region
	Burhinus grallarius/Bush Stone-curlew		Any in NSW
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Caladenia concolor/ Crimson Spider Orchid	Spp	IBRA region	
	Caladenia concolor/Crimson Spider Orchid	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp	IBRA region	
	Callocephalon fimbriatum/Gang-gang Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Calyptorhynchus lathami/ Glossy Black-Cockatoo	Spp		IBRA region
	Calyptorhynchus lathami/Glossy Black-Cockatoo		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cercartetus nanus/ Eastern Pygmy-possum	Spp		IBRA region
	Cercartetus nanus/Eastern Pygmy-possum		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Crinia sloanei/ Sloane's Froglet	Spp	IBRA region	
	Crinia sloanei/Sloane's Froglet	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Cullen parvum/ Small Scurf-pea	Spp		IBRA region
	Cullen parvum/Small Scurf-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Delma impar/ Striped Legless Lizard	Spp		IBRA region
	Delma impar/Striped Legless Lizard		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Euphrasia arguta/ Euphrasia arguta	Spp	IBRA region
	Euphrasia arguta/Euphrasia arguta *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Grevillea wilkinsonii/ Tumut Grevillea	Spp	IBRA region
	Grevillea wilkinsonii/Tumut Grevillea *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Haliaeetus leucogaster/ White-bellied Sea-Eagle	Spp	IBRA region
	Haliaeetus leucogaster/White-bellied Sea-Eagle	Any in NSW
	Variation options	

Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act	IBRA region

		shown below	
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Hieraaetus morphnoides/ Little Eagle	Spp	IBRA region	
	Hieraaetus morphnoides/Little Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Keyacris scurra/ Key's Matchstick Grasshopper	Spp		IBRA region
	Keyacris scurra/Key's Matchstick Grasshopper		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Leucochrysum albicans subsp. tricolor/ Hoary Sunray	Spp		IBRA region
	Leucochrysum albicans subsp. tricolor/Hoary Sunray		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Lophoictinia isura/ Square-tailed Kite	Spp	IBRA region	
	Lophoictinia isura/Square-tailed Kite	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Myotis macropus/ Southern Myotis	Spp		IBRA region
	Myotis macropus/Southern Myotis		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox connivens/ Barking Owl	Spp		IBRA region
	Ninox connivens/Barking Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox strenua/ Powerful Owl	Spp	IBRA region	
	Ninox strenua/Powerful Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Petaurus norfolcensis/ Squirrel Glider	Spp		IBRA region
	Petaurus norfolcensis/Squirrel Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis - endangered population/ Squirrel Glider in the Wagga Wagga Local Government Area	Spp		IBRA region
	Petaurus norfolcensis - endangered population/Squirrel Glider in the Wagga Wagga Local Government Area		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Endangered Population	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp	IBRA region	
	Phascolarctos cinereus/Koala	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Polytelis swainsonii/ Superb Parrot	Spp		IBRA region
	Polytelis swainsonii/Superb Parrot		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Prasophyllum petilum/ Tarengo Leek Orchid	Spp		IBRA region
	Prasophyllum petilum/Tarengo Leek Orchid		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Prasophyllum sp. Wybong/ Prasophyllum sp. Wybong	Spp	IBRA region	
	Prasophyllum sp. Wybong/Prasophyllum sp. Wybong	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Not Listed	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Pultenaea humilis/ Dwarf Bush-pea	Spp		IBRA region
	Pultenaea humilis/Dwarf Bush-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Swainsona recta/ Small Purple-pea	Spp		IBRA region
	Swainsona recta/Small Purple-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Swainsona sericea/ Silky Swainson-pea	Spp	IBRA region	
	Swainsona sericea/Silky Swainson-pea	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Synemon plana/ Golden Sun Moth	Spp		IBRA region
	Synemon plana/Golden Sun Moth		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tyto novaehollandiae/ Masked Owl	Spp		IBRA region
	Tyto novaehollandiae/Masked Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Zieria obcordata/ Granite Zieria	Spp	IBRA region	
	Zieria obcordata/Granite Zieria	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029446

Proposal Name
6699 Humelink Assessment - Inland Slopes

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
5

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Species
Caladenia concolor / Crimson Spider Orchid
Grevillea wilkinsonii / Tumut Grevillea
Zieria obcordata / Granite Zieria
Bossiaea fragrans / Bossiaea fragrans
Euphrasia arguta / Euphrasia arguta
Prasophyllum sp. Wybong / Prasophyllum sp. Wybong

Additional Information for Approval

PCT Outside Ibra Added

PCT
5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.

266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	Not a TEC	2.6	20	7	27
266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.7	275	36	311
268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	16.9	287	222	509
277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	70.1	1129	0	1129

5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_High_TCZ_100	Yes	5	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_High_ECZ_100	Yes	12	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_High_HTZ_100	Yes	3	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_Low_TCZ_100	No	6	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Inland Riverine Forests This includes PCT's: 2, 5, 7, 8, 9, 10, 11, 36, 78, 79, 112, 233, 234, 249, 356, 362, 4088, 4089	Inland Riverine Forests <50%	5_Low_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	266_High_TCZ_100	Yes	206	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	266_High_ECZ_	Yes	63	Inland Slopes, Bogan-Macquarie,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329,		100			Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	266_High_HTZ_100	Yes	6	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	266_Moderate_TCZ_100	No	32	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	266_Moderate_	No	3	Inland Slopes, Bogan-Macquarie,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329,		ECZ_100			Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	266_Moderate_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	266_Low_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	266_Low_ECZ_	No	0	Inland Slopes, Bogan-Macquarie,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329,		100			Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	266_Low_HTZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	268_High_TCZ_100	Yes	254	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	268_High_ECZ_100	Yes	28	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	268_High_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	268_Moderate_TCZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	268_Moderate_ECZ_100	Yes	2	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	268_Moderate_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	268_Low_TCZ_100	No	203	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	268_Low_ECZ_100	No	16	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	268_Low_ECZ_5	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	268_Low_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	268_Low_HTZ_5	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_High_TCZ_100	Yes	92	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	277_High_ECZ_100	Yes	36	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,					Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_High_HTZ_100	Yes	9	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_Moderate_TCZ_100	Yes	54	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	277_Moderate_ECZ_100	Yes	16	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,					Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_Moderate_HTZ_100	Yes	4	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_Low_TCZ_100	Yes	105	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	277_Low_TCZ_5	Yes	18	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,					Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_Low_ECZ_100	Yes	40	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_Low_ECZ_5	Yes	6	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	277_Low_HTZ_100	Yes	6	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,					Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_Low_HTZ_5	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_Verylow_TCZ_100	Yes	722	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	277_Verylow_TCZ_5-25	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,					Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_Verylow_TCZ_5	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_Verylow_ECZ_100	Yes	15	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	277_Verylow_ECZ_5	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,					Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	277_Verylow_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	277_Verylow_HTZ_5	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia ausfeldii / Ausfeld's Wattle	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100**	14.6	383.00

Ammobium craspedioides / Yass Daisy	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_Moderate_ECZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_ECZ_100,**	587.0	1174.00

	277_Verylow_HTZ_100		
Aprasia parapulchella / Pink-tailed Legless Lizard	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_ECZ_100, 277_Verylow_HTZ_100**	46.5	511.00

Bossiaea fragrans / Bossiaea fragrans	**268_High_TCZ_100, 268_High_ECZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_ECZ_5, 268_Low_HTZ_100, 268_Low_HTZ_5**	6.1	175.00

Burhinus grallarius / Bush Stone-curlew	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5**	31.1	542.00

Caladenia concolor / Crimson Spider Orchid	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100**	5.8	319.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,**	28.3	597.00

	277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100		
Calyptorhynchus lathami / Glossy Black-Cockatoo	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100**	9.7	185.00
Cercartetus nanus / Eastern Pygmy-possum	**268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100**	1.7	36.00

Crinia sloanei / Sloane's Froglet	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100**	2.6	27.00

Cullen parvum / Small Scurf-pea	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,** **277_Verylow_HTZ_5**	71.7	916.00

Delma impar / Striped Legless Lizard	**277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5**	70.1	680.00

Euphrasia arguta / Euphrasia arguta	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,**	87.3	1425.00

	277_Verylow_HTZ_5		
Grevillea wilkinsonii / Tumut Grevillea	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100**	27.5	400.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100**	6.2	55.00

Hieraaetus morphnoides / Little Eagle	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,**	41.5	631.00

	277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5		

Keyacris scurra / Key's Matchstick Grasshopper	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,**	102.8	1185.00

	277_Verylow_HTZ_5		
Leucochrysum albicans subsp. tricolor / Hoary Sunray	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_ECZ_5, 268_Low_HTZ_100, 268_Low_HTZ_5**	600.0	1200.00

Lophoictinia isura / Square-tailed Kite	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,**	41.5	631.00

	277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5		
Myotis macropus / Southern Myotis	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 5_Low_ECZ_100**	2.4	34.00
Ninox connivens / Barking Owl	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100, 266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100,**	28.2	596.00

	268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100		
Ninox strenua / Powerful Owl	**5_High_TCZ_100, 5_High_ECZ_100, 5_High_HTZ_100, 5_Low_TCZ_100**	2.5	35.00

Petaurus norfolcensis / Squirrel Glider	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,**	28.5	601.00

	277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100		

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,**	28.5	601.00

	277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100		

Phascolarctos cinereus / Koala	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **268_High_TCZ_100,** **268_High_ECZ_100,** **268_High_HTZ_100,** **268_Moderate_TCZ_100,** **268_Moderate_ECZ_100,** **268_Moderate_HTZ_100,** **268_Low_TCZ_100,** **268_Low_ECZ_100,** **268_Low_ECZ_5,** **268_Low_HTZ_100,** **268_Low_HTZ_5,** **277_High_TCZ_100,** **277_High_ECZ_100,**	45.5	891.00

	277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5		

Polytelis swainsonii / Superb Parrot	**5_High_TCZ_100,** **5_High_ECZ_100,** **5_High_HTZ_100,** **5_Low_TCZ_100,** **5_Low_ECZ_100,** **266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_ECZ_100,** **277_Low_HTZ_100**	22.6	427.00

Prasophyllum petilum / Tarengo Leek Orchid	**277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5**	13.2	241.00

Prasophyllum sp. Wybong / Prasophyllum sp. Wybong	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,**	87.8	1574.00

	277_Verylow_HTZ_5		
Pultenaea humilis / Dwarf Bush-pea	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100**	1.0	38.00

Swainsona recta / Small Purple-pea	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_ECZ_5, 268_Low_HTZ_100, 268_Low_HTZ_5, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100,**	91.2	1146.00

	277_Low_TCZ_5, 277_Low_ECZ_100, 277_Low_ECZ_5, 277_Low_HTZ_100, 277_Low_HTZ_5, 277_Verylow_TCZ_100, 277_Verylow_TCZ_5-25, 277_Verylow_TCZ_5, 277_Verylow_ECZ_100, 277_Verylow_ECZ_5, 277_Verylow_HTZ_100, 277_Verylow_HTZ_5		

Swainsona sericea / Silky Swainson-pea	**266_High_TCZ_100,** **266_High_ECZ_100,** **266_High_HTZ_100,** **266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Moderate_HTZ_100,** **266_Low_TCZ_100,** **266_Low_ECZ_100,** **266_Low_HTZ_100,** **277_High_TCZ_100,** **277_High_ECZ_100,** **277_High_HTZ_100,** **277_Moderate_TCZ_100,** **277_Moderate_ECZ_100,** **277_Moderate_HTZ_100,** **277_Low_TCZ_100,** **277_Low_TCZ_5,** **277_Low_ECZ_100,** **277_Low_ECZ_5,** **277_Low_HTZ_100,** **277_Low_HTZ_5,** **277_Verylow_TCZ_100,** **277_Verylow_TCZ_5-25,** **277_Verylow_TCZ_5,** **277_Verylow_ECZ_100,** **277_Verylow_ECZ_5,** **277_Verylow_HTZ_100,**	84.5	1009.00

	277_Verylow_HTZ_5		
Synemon plana / Golden Sun Moth	**5_Low_TCZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 277_Verylow_TCZ_100, 277_Verylow_ECZ_100**	19.4	117.00

Tyto novaehollandiae / Masked Owl	**266_High_TCZ_100, 266_High_ECZ_100, 266_High_HTZ_100, 266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Moderate_HTZ_100, 266_Low_TCZ_100, 266_Low_ECZ_100, 266_Low_HTZ_100, 277_High_TCZ_100, 277_High_ECZ_100, 277_High_HTZ_100, 277_Moderate_TCZ_100, 277_Moderate_ECZ_100, 277_Moderate_HTZ_100, 277_Low_TCZ_100, 277_Low_ECZ_100, 277_Low_HTZ_100**	19.0	378.00
Zieria obcordata / Granite Zieria	**268_High_TCZ_100, 268_High_ECZ_100, 268_High_HTZ_100, 268_Moderate_TCZ_100, 268_Moderate_ECZ_100, 268_Moderate_HTZ_100, 268_Low_TCZ_100, 268_Low_ECZ_100, 268_Low_HTZ_100**	8.1	265.00

Credit Retirement Options	Like-for-like credit retirement options	
Acacia ausfeldii / Ausfeld's Wattle	Spp	IBRA subregion
	Acacia ausfeldii / Ausfeld's Wattle	Any in NSW
Ammobium craspedioides / Yass Daisy	Spp	IBRA subregion
	Ammobium craspedioides / Yass Daisy	Any in NSW
Aprasia parapulchella / Pink-tailed Legless Lizard	Spp	IBRA subregion
	Aprasia parapulchella / Pink-tailed Legless Lizard	Any in NSW
Bossiaea fragrans / Bossiaea fragrans	Spp	IBRA subregion
	Bossiaea fragrans / Bossiaea fragrans	Any in NSW
Burhinus grallarius / Bush Stone-curlew	Spp	IBRA subregion
	Burhinus grallarius / Bush Stone-curlew	Any in NSW
Caladenia concolor / Crimson Spider Orchid	Spp	IBRA subregion
	Caladenia concolor / Crimson Spider Orchid	Any in NSW

Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calyptorhynchus lathami / Glossy Black-Cockatoo	Spp	IBRA subregion
	Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Crinia sloanei / Sloane's Froglet	Spp	IBRA subregion
	Crinia sloanei / Sloane's Froglet	Any in NSW
Cullen parvum / Small Scurf-pea	Spp	IBRA subregion
	Cullen parvum / Small Scurf-pea	Any in NSW
Delma impar / Striped Legless Lizard	Spp	IBRA subregion
	Delma impar / Striped Legless Lizard	Any in NSW
Euphrasia arguta / Euphrasia arguta	Spp	IBRA subregion

	Euphrasia arguta / Euphrasia arguta	Any in NSW
Grevillea wilkinsonii / Tumut Grevillea	Spp	IBRA subregion
	Grevillea wilkinsonii / Tumut Grevillea	Any in NSW
Haliaeetus leucogaster / White-bellied Sea-Eagle	Spp	IBRA subregion
	Haliaeetus leucogaster / White-bellied Sea-Eagle	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Keyacris scurra / Key's Matchstick Grasshopper	Spp	IBRA subregion
	Keyacris scurra / Key's Matchstick Grasshopper	Any in NSW
Leucochrysum albicans subsp. tricolor / Hoary Sunray	Spp	IBRA subregion
	Leucochrysum albicans subsp. tricolor / Hoary Sunray	Any in NSW
Lophoictinia isura / Square-tailed Kite	Spp	IBRA subregion
	Lophoictinia isura / Square-tailed Kite	Any in NSW

Myotis macropus / Southern Myotis	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Ninox connivens / Barking Owl	Spp	IBRA subregion
	Ninox connivens / Barking Owl	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	Spp	IBRA subregion
	Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW

Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Prasophyllum petilum / Tarengo Leek Orchid	Spp	IBRA subregion
	Prasophyllum petilum / Tarengo Leek Orchid	Any in NSW
Prasophyllum sp. Wybong / Prasophyllum sp. Wybong	Spp	IBRA subregion
	Prasophyllum sp. Wybong / Prasophyllum sp. Wybong	Any in NSW
Pultenaea humilis / Dwarf Bush-pea	Spp	IBRA subregion
	Pultenaea humilis / Dwarf Bush-pea	Any in NSW
Swainsona recta / Small Purple-pea	Spp	IBRA subregion
	Swainsona recta / Small Purple-pea	Any in NSW
Swainsona sericea / Silky Swainson-pea	Spp	IBRA subregion
	Swainsona sericea / Silky Swainson-pea	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion

	Synemon plana / Golden Sun Moth	Any in NSW
Tyto novaehollandiae / Masked Owl	Spp	IBRA subregion
	Tyto novaehollandiae / Masked Owl	Any in NSW
Zieria obcordata / Granite Zieria	Spp	IBRA subregion
	Zieria obcordata / Granite Zieria	Any in NSW

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/21/00029446	Proposal Name 6699 Humelink Assessment - Inland Slopes	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 5	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Acacia ausfeldii Ausfeld's Wattle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ammobium craspedioides Yass Daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Bossiaea fragrans Bossiaea fragrans	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Burhinus grallarius Bush Stone-curlew	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia concolor Crimson Spider Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed)	☑ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☑ Dec ☐ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Crinia sloanei Sloane's Froglet	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cullen parvum Small Scurf-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Delma impar Striped Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Euphrasia arguta Euphrasia arguta	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Grevillea wilkinsonii Tumut Grevillea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?

Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Keyacris scurra Key's Matchstick Grasshopper	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans subsp. tricolor Hoary Sunray	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Myotis macropus Southern Myotis	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Ninox strenua Powerful Owl	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis Squirrel Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis - endangered population Squirrel Glider in the Wagga Wagga Local Government Area	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Polytelis swainsonii Superb Parrot	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum petilum Tarengo Leek Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Prasophyllum sp. Wybong Prasophyllum sp. Wybong	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pultenaea humilis Dwarf Bush-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona recta Small Purple-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Synemon plana Golden Sun Moth	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Tyto novaehollandiae Masked Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Zieria obcordata Granite Zieria	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Booroolong Frog	Litoria booroolongensis	Refer to BAR
Brush-tailed Phascogale	Phascogale tapoatafa	Geographic limitations
Brush-tailed Rock-wallaby	Petrogale penicillata	Refer to BAR
Grey-headed Flying-fox	Pteropus poliocephalus	Refer to BAR
Large Bent-winged Bat	Miniopterus orianae oceanensis	Refer to BAR
Large-eared Pied Bat	Chalinolobus dwyeri	Refer to BAR
Regent Honeyeater	Anthochaera phrygia	Refer to BAR
Swift Parrot	Lathamus discolor	Refer to BAR

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029446

Proposal Name
6699 Humelink Assessment - Inland Slopes

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
5

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits

Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion												
26	277_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	69.7	69.7	2.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	92

27	277_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	69.7	41.5	1.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	36

28	277_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	69.7	24.1	0.61	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	9

29	277_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	70.6	70.6	1.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	54

30	277_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	70.6	40.2	0.65	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	16

31	277_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	70.6	14.6	0.41	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	4

32	277_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.7	38.7	4.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	105

33	277_Low_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.7	38.7	0.75	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	18

34	277_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.7	21.1	3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	40

35	277_Low_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.7	21.1	0.44	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	6

36	277_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.7	5.8	1.7	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	6

37	277_Low_HTZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.7	5.8	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

38	277_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	22.5	51.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	722

39	277_Veryl ow_TCZ_5 -25	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	22.5	0.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

40	277_Veryl ow_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	22.5	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

41	277_Veryl ow_ECZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	18.0	1.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	15

42	277_Veryl ow_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	18.0	0.04	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

43	277_Veryl ow_HTZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	4.1	0.41	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

44	277_Veryl ow_HTZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	22.5	4.1	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
											Subtot al	**1129**
River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.												
1	5_High_TC Z_100	Not a TEC	47	47.0	0.29	PCT Cleared - 40%	High Sensitivity to Gain			1.50		5
2	5_High_EC Z_100	Not a TEC	47	33.3	0.99	PCT Cleared - 40%	High Sensitivity to Gain			1.50		12
3	5_High_HT Z_100	Not a TEC	47	13.5	0.54	PCT Cleared - 40%	High Sensitivity to Gain			1.50		3

4	5_Low_TCZ_100	Not a TEC	22.1	22.1	0.69	PCT Cleared - 40%	High Sensitivity to Gain			1.50		6
5	5_Low_ECZ_100	Not a TEC	22.1	16.6	0.08	PCT Cleared - 40%	High Sensitivity to Gain			1.50		1
											Subtotal	**27**
White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion												
15	268_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	80.8	80.8	5	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	254

16	268_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	80.8	61.5	0.74	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	28

17	268_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	80.8	7.3	0.31	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

18	268_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.3	32.3	0.01	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

19	268_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.3	27.6	0.11	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

20	268_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.3	7.7	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

21	268_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	35.2	9.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	203

22	268_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	22.3	1.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	16

23	268_Low_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	22.3	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

24	268_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	4.9	0.19	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

25	268_Low_HTZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	4.9	0.01	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
											Subtotal	**509**

White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion												
6	266_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	66.9	66.9	4.9	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	206

7	266_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	66.9	50.6	2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	63

8	266_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	66.9	14.3	0.72	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	6

9	266_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	31.7	31.7	1.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	32

10	266_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	31.7	25.3	0.16	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

11	266_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	31.7	0.0	0.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

12	266_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3	3.0	21.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

13	266_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3	1.4	1.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

14	266_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3	0.0	0.61	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**311**
											Total	**1976**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits

Acacia ausfeldii / Ausfeld's Wattle (Flora)									
266_High_TCZ_100	66.9	66.9	4.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	159
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	50
266_High_HTZ_100	14.3	14.3	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
266_Moderate_TCZ_100	31.7	31.7	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
266_Moderate_ECZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

266_Moderate_HTZ_100	0.0	0.0	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	74
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	29
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
277_Moderate_TCZ_100	70.6	70.6	0.86	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	30
277_Moderate_ECZ_100	40.2	40.2	0.37	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7

277_Moderate_HTZ_100	14.6	14.6	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
								Subtotal	**383**
Ammobium craspedioides / Yass Daisy (Flora)									
266_High_TCZ_100	N/A	N/A	31	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	62
266_High_ECZ_100	N/A	N/A	17	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	34
266_High_HTZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	8
266_Moderate_TCZ_100	N/A	N/A	8	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	16
266_Moderate_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4

266_Low_TCZ_100	N/A	N/A	113	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	226
266_Low_ECZ_100	N/A	N/A	6	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	12
266_Low_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
268_High_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
268_Moderate_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
268_Low_TCZ_100	N/A	N/A	34	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	68
268_Low_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6

268_Low_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
277_High_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
277_High_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
277_High_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
277_Moderate_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
277_Moderate_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
277_Moderate_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4

277_Low_TCZ_100	N/A	N/A	24	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	48
277_Low_TCZ_5	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
277_Low_ECZ_100	N/A	N/A	16	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	32
277_Low_ECZ_5	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
277_Low_HTZ_100	N/A	N/A	8	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	16
277_Verylow_TCZ_100	N/A	N/A	277	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	554
277_Verylow_TCZ_5-25	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2

277_Verylow_ECZ_100	N/A	N/A	6	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	12
277_Verylow_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
								Subtotal	**1174**
Aprasia parapulchella / Pink-tailed Legless Lizard (Fauna)									
266_High_TCZ_100	66.9	66.9	4.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	150
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	50
266_High_HTZ_100	14.3	14.3	0.66	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25

266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	0
266_Low_TCZ_100	3.0	3.0	14.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	23
266_Low_ECZ_100	1.4	1.4	0.91	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
266_Low_HTZ_100	0.0	0.0	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
277_High_TCZ_100	69.7	69.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
277_Moderate_TCZ_100	70.6	70.6	0.38	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	13

277_Moderate_ECZ_100	40.2	40.2	0.28	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
277_Moderate_HTZ_100	14.6	14.6	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
277_Low_TCZ_100	38.7	38.7	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	26
277_Low_ECZ_100	21.1	21.1	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
277_Low_HTZ_100	5.8	5.8	0.37	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
277_Verylow_TCZ_100	22.5	22.5	17.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	194
277_Verylow_TCZ_5-25	22.5	22.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

277_Verylow_ECZ_100	18.0	18.0	0.36	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
277_Verylow_HTZ_100	4.1	4.1	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**511**
Bossiaea fragrans / Bossiaea fragrans (Flora)									
268_High_TCZ_100	80.8	80.8	0.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	30
268_High_ECZ_100	61.5	61.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1

268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
268_Low_TCZ_100	35.2	35.2	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	133
268_Low_ECZ_100	22.3	22.3	0.23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	4
268_Low_ECZ_5	22.3	22.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
268_Low_HTZ_100	4.9	4.9	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1

268_Low_HTZ_5	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
								Subtotal	**175**
Burhinus grallarius / Bush Stone-curlew (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	8

266_High_TCZ_100	66.9	66.9	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	164
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	50
266_High_HTZ_100	14.3	14.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	5
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	25
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	0

266_Low_TCZ_100	3.0	3.0	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	7
266_Low_ECZ_100	1.4	1.4	0.94	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	74
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	29
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	7

277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	43
277_Moderate_ECZ_100	40.2	40.2	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	10
277_Moderate_HTZ_100	14.6	14.6	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	57
277_Low_TCZ_5	38.7	38.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
277_Low_ECZ_100	21.1	21.1	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	22

277_Low_ECZ_5	21.1	21.1	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	2
277_Low_HTZ_100	5.8	5.8	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	4
277_Low_HTZ_5	5.8	5.8	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
								Subtotal	**542**
Caladenia concolor / Crimson Spider Orchid (Flora)									
268_High_TCZ_100	80.8	80.8	4.6	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	279
268_High_ECZ_100	61.5	61.5	0.74	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	34

268_High_HTZ_100	7.3	7.3	0.31	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	2
268_Moderate_TCZ_100	32.3	32.3	0.01	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
								Subtotal	**319**
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7

5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
266_High_TCZ_100	66.9	66.9	4.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	142
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	28
266_High_HTZ_100	14.3	14.3	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	25

266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	0
266_Low_TCZ_100	3.0	3.0	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
266_Low_ECZ_100	1.4	1.4	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
266_Low_HTZ_100	0.0	0.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
268_High_TCZ_100	80.8	80.8	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	120
268_High_ECZ_100	61.5	61.5	0.49	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	15

268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
268_Low_TCZ_100	35.2	35.2	2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	34
268_Low_ECZ_100	22.3	22.3	0.68	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
268_Low_HTZ_100	4.9	4.9	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	65
277_High_ECZ_100	41.5	41.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	26
277_High_HTZ_100	24.1	24.1	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6
277_Moderate_TCZ_100	70.6	70.6	0.77	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	27
277_Moderate_ECZ_100	40.2	40.2	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
277_Moderate_HTZ_100	14.6	14.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
277_Low_TCZ_100	38.7	38.7	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	26

277_Low_ECZ_100	21.1	21.1	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	11
277_Low_HTZ_100	5.8	5.8	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
								Subtotal	**597**
Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)									
266_High_TCZ_100	66.9	66.9	3.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	121
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	28
266_High_HTZ_100	14.3	14.3	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25

266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	0
266_Low_TCZ_100	3.0	3.0	2.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
266_Low_ECZ_100	1.4	1.4	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
266_Low_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**185**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

268_Moderate_ECZ_100	27.6	27.6	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	0.58	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
268_Low_ECZ_100	22.3	22.3	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_HTZ_100	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
277_Moderate_TCZ_100	70.6	70.6	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	16
277_Moderate_ECZ_100	40.2	40.2	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2

277_Moderate_HTZ_100	14.6	14.6	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
277_Low_TCZ_100	38.7	38.7	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
277_Low_ECZ_100	21.1	21.1	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**36**
Crinia sloanei / Sloane's Froglet (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Endangered	False	5
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Endangered	False	12
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Endangered	False	3

5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Endangered	False	6
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Endangered	False	1
								Subtotal	**27**
Cullen parvum / Small Scurf-pea (Flora)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	8

5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	1.7	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	58
277_High_ECZ_100	41.5	41.5	1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	21
277_High_HTZ_100	24.1	24.1	0.57	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	7
277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	43
277_Moderate_ECZ_100	40.2	40.2	0.65	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	13
277_Moderate_HTZ_100	14.6	14.6	0.41	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3

277_Low_TCZ_100	38.7	38.7	4.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	84
277_Low_TCZ_5	38.7	38.7	0.68	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	13
277_Low_ECZ_100	21.1	21.1	3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	32
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
277_Low_HTZ_100	5.8	5.8	1.7	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_TCZ_100	22.5	22.5	51.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	578

277_Verylow_TCZ_5-25	22.5	22.5	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_TCZ_5	22.5	22.5	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_ECZ_100	18.0	18.0	1.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	12
277_Verylow_ECZ_5	18.0	18.0	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_HTZ_100	4.1	4.1	0.36	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_HTZ_5	4.1	4.1	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**916**

Delma impar / Striped Legless Lizard (Fauna)									
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	55
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	21
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6
277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	33
277_Moderate_ECZ_100	40.2	40.2	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	10

277_Moderate_HTZ_100	14.6	14.6	0.41	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
277_Low_TCZ_100	38.7	38.7	4.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	63
277_Low_TCZ_5	38.7	38.7	0.75	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	11
277_Low_ECZ_100	21.1	21.1	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	24
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
277_Low_HTZ_100	5.8	5.8	1.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	4

277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
277_Verylow_TCZ_100	22.5	22.5	51.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	433
277_Verylow_TCZ_5-25	22.5	22.5	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
277_Verylow_TCZ_5	22.5	22.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
277_Verylow_ECZ_100	18.0	18.0	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	9
277_Verylow_ECZ_5	18.0	18.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

277_Verylow_HTZ_100	4.1	4.1	0.41	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
277_Verylow_HTZ_5	4.1	4.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**680**
Euphrasia arguta / Euphrasia arguta (Flora)									
266_High_TCZ_100	66.9	66.9	3.3	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	166
266_High_ECZ_100	50.6	50.6	1.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	59
266_High_HTZ_100	14.3	14.3	0.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	6

266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	38
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	3
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	0
266_Low_TCZ_100	3.0	3.0	19.5	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	44
266_Low_ECZ_100	1.4	1.4	1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
266_Low_HTZ_100	0.0	0.0	0.61	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1

277_High_TCZ_100	69.7	69.7	0.93	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	49
277_High_ECZ_100	41.5	41.5	0.69	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	21
277_High_HTZ_100	24.1	24.1	0.47	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	8
277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	64
277_Moderate_ECZ_100	40.2	40.2	0.63	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	19
277_Moderate_HTZ_100	14.6	14.6	0.35	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	4

277_Low_TCZ_100	38.7	38.7	3.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	110
277_Low_TCZ_5	38.7	38.7	0.68	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	20
277_Low_ECZ_100	21.1	21.1	2.7	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	43
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	7
277_Low_HTZ_100	5.8	5.8	1.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	7
277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1

277_Verylow_TCZ_100	22.5	22.5	43.4	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	733
277_Verylow_TCZ_5-25	22.5	22.5	0.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	2
277_Verylow_TCZ_5	22.5	22.5	0.03	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
277_Verylow_ECZ_100	18.0	18.0	1.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	15
277_Verylow_ECZ_5	18.0	18.0	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
277_Verylow_HTZ_100	4.1	4.1	0.31	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1

277_Verylow_HTZ_5	4.1	4.1	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
								Subtotal	**1425**
Grevillea wilkinsonii / Tumut Grevillea (Flora)									
266_High_TCZ_100	66.9	66.9	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	247
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	75
266_High_HTZ_100	14.3	14.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	8
266_Moderate_TCZ_100	31.7	31.7	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	28

266_Moderate_ECZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
266_Moderate_HTZ_100	0.0	0.0	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	0
266_Low_TCZ_100	3.0	3.0	17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	39
266_Low_ECZ_100	1.4	1.4	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
266_Low_HTZ_100	0.0	0.0	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
								Subtotal	**400**

Haliaeetus leucogaster / White-bellied Sea-Eagle (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	8
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
266_Low_TCZ_100	3.0	3.0	2.2	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	3
266_Low_ECZ_100	1.4	1.4	0.63	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1

266_Low_HTZ_100	0.0	0.0	0.19	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	0.22	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	4
268_Low_ECZ_100	22.3	22.3	0.04	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
268_Low_HTZ_100	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
277_Low_TCZ_100	38.7	38.7	0.12	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	2
277_Low_TCZ_5	38.7	38.7	0.15	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	3
277_Low_ECZ_100	21.1	21.1	0.03	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1

277_Low_ECZ_5	21.1	21.1	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
277_Low_HTZ_100	5.8	5.8	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
								Subtotal	**55**
Hieraaetus morphnoides / Little Eagle (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	12
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3

5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
266_High_TCZ_100	66.9	66.9	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	123
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	38
266_High_HTZ_100	14.3	14.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2

266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
266_Low_ECZ_100	1.4	1.4	0.94	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_High_TCZ_100	80.8	80.8	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	149
268_High_ECZ_100	61.5	61.5	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17

268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	3.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	42
268_Low_ECZ_100	22.3	22.3	0.87	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7

268_Low_ECZ_5	22.3	22.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_HTZ_100	4.9	4.9	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_HTZ_5	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	55
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	21
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	32
277_Moderate_ECZ_100	40.2	40.2	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
277_Moderate_HTZ_100	14.6	14.6	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	43
277_Low_TCZ_5	38.7	38.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
277_Low_ECZ_100	21.1	21.1	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	16

277_Low_ECZ_5	21.1	21.1	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
277_Low_HTZ_100	5.8	5.8	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
277_Low_HTZ_5	5.8	5.8	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**631**
Keyacris scurra / Key's Matchstick Grasshopper (Fauna)									
266_High_TCZ_100	66.9	66.9	4.9	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	164
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	50
266_High_HTZ_100	14.3	14.3	0.72	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5

266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	25
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	21.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	32
266_Low_ECZ_100	1.4	1.4	1.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.61	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	74

277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	29
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	7
277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	43
277_Moderate_ECZ_100	40.2	40.2	0.65	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	13
277_Moderate_HTZ_100	14.6	14.6	0.41	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3
277_Low_TCZ_100	38.7	38.7	4.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	84
277_Low_TCZ_5	38.7	38.7	0.75	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	14

277_Low_ECZ_100	21.1	21.1	3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	32
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
277_Low_HTZ_100	5.8	5.8	1.7	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
277_Low_HTZ_5	5.8	5.8	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_TCZ_100	22.5	22.5	51.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	578
277_Verylow_TCZ_5-25	22.5	22.5	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_TCZ_5	22.5	22.5	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1

277_Verylow_ECZ_100	18.0	18.0	1.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	12
277_Verylow_ECZ_5	18.0	18.0	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_HTZ_100	4.1	4.1	0.41	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
277_Verylow_HTZ_5	4.1	4.1	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**1185**
Leucochrysum albicans subsp. tricolor / Hoary Sunray (Flora)									
268_High_TCZ_100	N/A	N/A	66	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	132
268_High_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6

268_High_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
268_Moderate_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
268_Moderate_ECZ_100	N/A	N/A	10	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	20
268_Moderate_HTZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
268_Low_TCZ_100	N/A	N/A	481	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	962
268_Low_ECZ_100	N/A	N/A	24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	48

268_Low_ECZ_5	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
268_Low_HTZ_100	N/A	N/A	7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
268_Low_HTZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
								Subtotal	**1200**
Lophoictinia isura / Square-tailed Kite (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	12

5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
266_High_TCZ_100	66.9	66.9	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	123
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	38
266_High_HTZ_100	14.3	14.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19

266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
266_Low_ECZ_100	1.4	1.4	0.94	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_High_TCZ_100	80.8	80.8	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	149

268_High_ECZ_100	61.5	61.5	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17
268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	3.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	42

268_Low_ECZ_100	22.3	22.3	0.87	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
268_Low_ECZ_5	22.3	22.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_HTZ_100	4.9	4.9	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Low_HTZ_5	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	55
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	21

277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	32
277_Moderate_ECZ_100	40.2	40.2	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
277_Moderate_HTZ_100	14.6	14.6	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	43
277_Low_TCZ_5	38.7	38.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

277_Low_ECZ_100	21.1	21.1	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	16
277_Low_ECZ_5	21.1	21.1	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
277_Low_HTZ_100	5.8	5.8	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
277_Low_HTZ_5	5.8	5.8	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**631**
Myotis macropus / Southern Myotis (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7

5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.52	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**34**
Ninox connivens / Barking Owl (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16

5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
266_High_TCZ_100	66.9	66.9	4.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	142
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28
266_High_HTZ_100	14.3	14.3	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	25
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2

266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
266_Low_ECZ_100	1.4	1.4	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
268_High_TCZ_100	80.8	80.8	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	120
268_High_ECZ_100	61.5	61.5	0.49	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	34
268_Low_ECZ_100	22.3	22.3	0.68	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
268_Low_HTZ_100	4.9	4.9	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	65

277_High_ECZ_100	41.5	41.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	26
277_High_HTZ_100	24.1	24.1	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
277_Moderate_TCZ_100	70.6	70.6	0.77	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	27
277_Moderate_ECZ_100	40.2	40.2	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
277_Moderate_HTZ_100	14.6	14.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	26
277_Low_ECZ_100	21.1	21.1	0.98	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10

277_Low_HTZ_100	5.8	5.8	0.63	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
								Subtotal	**596**
Ninox strenua / Powerful Owl (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
								Subtotal	**35**

Petaurus norfolcensis / Squirrel Glider (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
266_High_TCZ_100	66.9	66.9	4.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	142
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28

266_High_HTZ_100	14.3	14.3	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	25
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
266_Low_ECZ_100	1.4	1.4	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

268_High_TCZ_100	80.8	80.8	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	120
268_High_ECZ_100	61.5	61.5	0.49	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	33

268_Low_ECZ_100	22.3	22.3	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
268_Low_HTZ_100	4.9	4.9	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	65
277_High_ECZ_100	41.5	41.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	26
277_High_HTZ_100	24.1	24.1	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
277_Moderate_TCZ_100	70.6	70.6	0.78	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28
277_Moderate_ECZ_100	40.2	40.2	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	11

277_Moderate_HTZ_100	14.6	14.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	1.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28
277_Low_ECZ_100	21.1	21.1	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	11
277_Low_HTZ_100	5.8	5.8	0.73	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
								Subtotal	**601**
Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	16

5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	8
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
266_High_TCZ_100	66.9	66.9	4.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	142
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	28
266_High_HTZ_100	14.3	14.3	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	3
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	25

266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	4
266_Low_ECZ_100	1.4	1.4	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
268_High_TCZ_100	80.8	80.8	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	120
268_High_ECZ_100	61.5	61.5	0.49	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	15

268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
268_Low_TCZ_100	35.2	35.2	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	33
268_Low_ECZ_100	22.3	22.3	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	6
268_Low_HTZ_100	4.9	4.9	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1

277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	65
277_High_ECZ_100	41.5	41.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	26
277_High_HTZ_100	24.1	24.1	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	6
277_Moderate_TCZ_100	70.6	70.6	0.78	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	28
277_Moderate_ECZ_100	40.2	40.2	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	11
277_Moderate_HTZ_100	14.6	14.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	1.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	28

277_Low_ECZ_100	21.1	21.1	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	11
277_Low_HTZ_100	5.8	5.8	0.73	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	2
								Subtotal	**601**
Phascolarctos cinereus / Koala (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4

5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_High_TCZ_100	66.9	66.9	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	164
266_High_ECZ_100	50.6	50.6	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	50
266_High_HTZ_100	14.3	14.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	25

266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	0
266_Low_TCZ_100	3.0	3.0	5.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
266_Low_ECZ_100	1.4	1.4	0.94	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_HTZ_100	0.0	0.0	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_High_TCZ_100	80.8	80.8	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	199

268_High_ECZ_100	61.5	61.5	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	23
268_High_HTZ_100	7.3	7.3	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Low_TCZ_100	35.2	35.2	3.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	57

268_Low_ECZ_100	22.3	22.3	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
268_Low_ECZ_5	22.3	22.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Low_HTZ_100	4.9	4.9	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Low_HTZ_5	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_High_TCZ_100	69.7	69.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	74
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	29

277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
277_Moderate_TCZ_100	70.6	70.6	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	43
277_Moderate_ECZ_100	40.2	40.2	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	13
277_Moderate_HTZ_100	14.6	14.6	0.41	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
277_Low_TCZ_100	38.7	38.7	4.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	79
277_Low_TCZ_5	38.7	38.7	0.75	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14

277_Low_ECZ_100	21.1	21.1	2.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	28
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
277_Low_HTZ_100	5.8	5.8	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**891**
Polytelis swainsonii / Superb Parrot (Fauna)									
5_High_TCZ_100	47.0	47.0	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7

5_High_ECZ_100	33.3	33.3	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	16
5_High_HTZ_100	13.5	13.5	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
5_Low_TCZ_100	22.1	22.1	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	8
5_Low_ECZ_100	16.6	16.6	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
266_High_TCZ_100	66.9	66.9	4.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	142
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	28
266_High_HTZ_100	14.3	14.3	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3

266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	0
266_Low_TCZ_100	3.0	3.0	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
266_Low_ECZ_100	1.4	1.4	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
266_Low_HTZ_100	0.0	0.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	65

277_High_ECZ_100	41.5	41.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	26
277_High_HTZ_100	24.1	24.1	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
277_Moderate_TCZ_100	70.6	70.6	0.78	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	28
277_Moderate_ECZ_100	40.2	40.2	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12
277_Moderate_HTZ_100	14.6	14.6	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
277_Low_TCZ_100	38.7	38.7	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	32
277_Low_ECZ_100	21.1	21.1	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12

277_Low_HTZ_100	5.8	5.8	0.78	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
								Subtotal	**427**
Prasophyllum petilum / Tarengo Leek Orchid (Flora)									
277_High_TCZ_100	69.7	69.7	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	52
277_High_ECZ_100	41.5	41.5	0.99	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	21
277_High_HTZ_100	24.1	24.1	0.57	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
277_Moderate_TCZ_100	70.6	70.6	0.85	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	30

277_Moderate_ECZ_100	40.2	40.2	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
277_Moderate_HTZ_100	14.6	14.6	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
277_Low_TCZ_100	38.7	38.7	3.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	72
277_Low_TCZ_5	38.7	38.7	0.75	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
277_Low_ECZ_100	21.1	21.1	2.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5

277_Low_HTZ_100	5.8	5.8	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**241**
Prasophyllum sp. Wybong / Prasophyllum sp. Wybong (Flora)									
266_High_TCZ_100	66.9	66.9	4.8	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	238
266_High_ECZ_100	50.6	50.6	2	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	75

266_High_HTZ_100	14.3	14.3	0.69	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	7
266_Moderate_TCZ_100	31.7	31.7	1.2	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	28
266_Moderate_ECZ_100	25.3	25.3	0.04	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
266_Moderate_HTZ_100	0.0	0.0	0.31	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	0
266_Low_TCZ_100	3.0	3.0	17	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	39

266_Low_ECZ_100	1.4	1.4	0.95	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
266_Low_HTZ_100	0.0	0.0	0.35	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
277_High_TCZ_100	69.7	69.7	2.1	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	110
277_High_ECZ_100	41.5	41.5	1.4	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	43
277_High_HTZ_100	24.1	24.1	0.61	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	11

277_Moderate_TCZ_100	70.6	70.6	0.86	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	46
277_Moderate_ECZ_100	40.2	40.2	0.37	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	11
277_Moderate_HTZ_100	14.6	14.6	0.31	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	3
277_Low_TCZ_100	38.7	38.7	3.9	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	113
277_Low_TCZ_5	38.7	38.7	0.75	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	22

277_Low_ECZ_100	21.1	21.1	2.6	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	42
277_Low_ECZ_5	21.1	21.1	0.44	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	7
277_Low_HTZ_100	5.8	5.8	1.3	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	6
277_Low_HTZ_5	5.8	5.8	0.02	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
277_Verylow_TCZ_100	22.5	22.5	44.5	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	750

277_Verylow_TCZ_5-25	22.5	22.5	0.1	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	2
277_Verylow_TCZ_5	22.5	22.5	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
277_Verylow_ECZ_100	18.0	18.0	0.98	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	13
277_Verylow_ECZ_5	18.0	18.0	0.04	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
277_Verylow_HTZ_100	4.1	4.1	0.24	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1

277_Verylow_HTZ_5	4.1	4.1	0.02	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Critically Endangered	True	1
								Subtotal	**1574**
Pultenaea humilis / Dwarf Bush-pea (Flora)									
268_High_TCZ_100	80.8	80.8	0.78	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	32
268_High_ECZ_100	61.5	61.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_High_HTZ_100	7.3	7.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**38**
Swainsona recta / Small Purple-pea (Flora)									
266_High_TCZ_100	66.9	66.9	4.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	159
266_High_ECZ_100	50.6	50.6	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	47
266_High_HTZ_100	14.3	14.3	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5

266_Moderate_TCZ_100	31.7	31.7	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	19
266_Moderate_ECZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Moderate_HTZ_100	0.0	0.0	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	0
266_Low_TCZ_100	3.0	3.0	17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
266_Low_ECZ_100	1.4	1.4	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_HTZ_100	0.0	0.0	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

268_High_TCZ_100	80.8	80.8	0.78	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	32
268_High_ECZ_100	61.5	61.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_High_HTZ_100	7.3	7.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

268_Low_TCZ_100	35.2	35.2	5.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	92
268_Low_ECZ_100	22.3	22.3	0.38	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
268_Low_ECZ_5	22.3	22.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Low_HTZ_100	4.9	4.9	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
268_Low_HTZ_5	4.9	4.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	67

277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	29
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
277_Moderate_TCZ_100	70.6	70.6	0.85	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	30
277_Moderate_ECZ_100	40.2	40.2	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
277_Moderate_HTZ_100	14.6	14.6	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
277_Low_TCZ_100	38.7	38.7	3.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	72

277_Low_TCZ_5	38.7	38.7	0.75	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
277_Low_ECZ_100	21.1	21.1	2.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
277_Low_HTZ_100	5.8	5.8	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_Verylow_TCZ_100	22.5	22.5	42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	472

277_Verylow_TCZ_5-25	22.5	22.5	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_Verylow_TCZ_5	22.5	22.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_Verylow_ECZ_100	18.0	18.0	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	9
277_Verylow_ECZ_5	18.0	18.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_Verylow_HTZ_100	4.1	4.1	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
277_Verylow_HTZ_5	4.1	4.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

								Subtotal	1146
Swainsona sericea / Silky Swainson-pea (Flora)									
266_High_TCZ_100	66.9	66.9	4.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	159
266_High_ECZ_100	50.6	50.6	1.9	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	47
266_High_HTZ_100	14.3	14.3	0.65	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	5
266_Moderate_TCZ_100	31.7	31.7	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	19
266_Moderate_ECZ_100	25.3	25.3	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
266_Moderate_HTZ_100	0.0	0.0	0.31	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	0

266_Low_TCZ_100	3.0	3.0	17	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	26
266_Low_ECZ_100	1.4	1.4	0.95	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.35	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	67
277_High_ECZ_100	41.5	41.5	1.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	29
277_High_HTZ_100	24.1	24.1	0.61	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	7
277_Moderate_TCZ_100	70.6	70.6	0.85	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	30

277_Moderate_ECZ_100	40.2	40.2	0.36	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	7
277_Moderate_HTZ_100	14.6	14.6	0.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	3.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	72
277_Low_TCZ_5	38.7	38.7	0.75	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	14
277_Low_ECZ_100	21.1	21.1	2.5	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	26
277_Low_ECZ_5	21.1	21.1	0.44	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	5
277_Low_HTZ_100	5.8	5.8	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	4

277_Low_HTZ_5	5.8	5.8	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
277_Verylow_TCZ_100	22.5	22.5	42	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	472
277_Verylow_TCZ_5-25	22.5	22.5	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
277_Verylow_TCZ_5	22.5	22.5	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
277_Verylow_ECZ_100	18.0	18.0	0.95	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	9
277_Verylow_ECZ_5	18.0	18.0	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
277_Verylow_HTZ_100	4.1	4.1	0.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

277_Verylow_HTZ_5	4.1	4.1	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
								Subtotal	**1009**
Synemon plana / Golden Sun Moth (Fauna)									
5_Low_TCZ_100	22.1	22.1	0.25	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
266_Moderate_TCZ_100	31.7	31.7	0.52	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6
266_Moderate_ECZ_100	25.3	25.3	0.09	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

266_Low_TCZ_100	3.0	3.0	9.3	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	11
266_Low_ECZ_100	1.4	1.4	0.08	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
266_Low_HTZ_100	0.0	0.0	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
268_Moderate_ECZ_100	27.6	27.6	0.05	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

268_Low_TCZ_100	35.2	35.2	3.2	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	42
268_Low_ECZ_100	22.3	22.3	0.05	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
277_Verylow_TCZ_100	22.5	22.5	5.8	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	49
277_Verylow_ECZ_100	18.0	18.0	0.04	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**117**

Tyto novaehollandiae / Masked Owl (Fauna)									
266_High_TCZ_100	66.9	66.9	4.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	142
266_High_ECZ_100	50.6	50.6	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28
266_High_HTZ_100	14.3	14.3	0.45	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
266_Moderate_TCZ_100	31.7	31.7	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	25
266_Moderate_ECZ_100	25.3	25.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
266_Moderate_HTZ_100	0.0	0.0	0.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
266_Low_TCZ_100	3.0	3.0	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4

266_Low_ECZ_100	1.4	1.4	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
266_Low_HTZ_100	0.0	0.0	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
277_High_TCZ_100	69.7	69.7	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	65
277_High_ECZ_100	41.5	41.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	26
277_High_HTZ_100	24.1	24.1	0.51	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
277_Moderate_TCZ_100	70.6	70.6	0.77	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	27
277_Moderate_ECZ_100	40.2	40.2	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8

277_Moderate_HTZ_100	14.6	14.6	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
277_Low_TCZ_100	38.7	38.7	1.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	26
277_Low_ECZ_100	21.1	21.1	0.98	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
277_Low_HTZ_100	5.8	5.8	0.63	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
								Subtotal	**378**
Zieria obcordata / Granite Zieria (Flora)									
268_High_TCZ_100	80.8	80.8	1.7	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	101
268_High_ECZ_100	61.5	61.5	0.03	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1

268_High_HTZ_100	7.3	7.3	0.01	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
268_Moderate_TCZ_100	32.3	32.3	0.01	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
268_Moderate_ECZ_100	27.6	27.6	0.11	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	2
268_Moderate_HTZ_100	7.7	7.7	0.03	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
268_Low_TCZ_100	35.2	35.2	5.6	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	149
268_Low_ECZ_100	22.3	22.3	0.47	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	8
268_Low_HTZ_100	4.9	4.9	0.1	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
								Subtotal	**265**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029446	6699 Humelink Assessment - Inland Slopes	22/06/2023
Assessor Name	**Report Created**	**BAM Data version ***
Simon Tweed	18/08/2023	61
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17040	Major Projects	Finalised
Assessment Revision		**Date Finalised**
5		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Australian Painted Snipe	Rostratula australis	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
Barking Owl	Ninox connivens	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Black Falcon	Falco subniger	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.

Black Falcon	Falco subniger	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Corben's Long-eared Bat	Nyctophilus corbeni	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
Diamond Firetail	Stagonopleura guttata	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Dusky Woodswallow	Artamus cyanopterus cyanopterus	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Eastern False Pipistrelle	Falsistrellus tasmaniensis	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Flame Robin	Petroica phoenicea	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Freckled Duck	Stictonetta naevosa	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
Gang-gang Cockatoo	Callocephalon fimbriatum	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.

Gang-gang Cockatoo	Callocephalon fimbriatum	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Gilbert's Whistler	Pachycephala inornata	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
Glossy Black-Cockatoo	Calyptorhynchus lathami	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Grey-headed Flying-fox	Pteropus poliocephalus	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Large Bent-winged Bat	Miniopterus orianae oceanensis	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Little Eagle	Hieraaetus morphnoides	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Little Lorikeet	Glossopsitta pusilla	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Little Pied Bat	Chalinolobus picatus	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
Masked Owl	Tyto novaehollandiae	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Painted Honeyeater	Grantiella picta	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Painted Honeyeater	Grantiella picta	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Powerful Owl	Ninox strenua	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
Purple-crowned Lorikeet	Glossopsitta porphyrocephala	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
Regent Honeyeater	Anthochaera phrygia	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Rosenberg's Goanna	Varanus rosenbergi	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
Scarlet Robin	Petroica boodang	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion

Scarlet Robin	Petroica boodang	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Speckled Warbler	Chthonicola sagittata	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Spotted Harrier	Circus assimilis	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Square-tailed Kite	Lophoictinia isura	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion

Square-tailed Kite	Lophoictinia isura	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Superb Parrot	Polytelis swainsonii	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Swift Parrot	Lathamus discolor	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Turquoise Parrot	Neophema pulchella	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Varied Sittella	Daphoenositta chrysoptera	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Varied Sittella	Daphoenositta chrysoptera	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
White-throated Needletail	Hirundapus caudacutus	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.
		266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

Threatened species Manually Added

None added

BAM Predicted Species Report

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029446

Assessment name
6699 Humelink Assessment - Inland Slopes

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
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BAM Case Status
Finalised

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18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones

1	5_High_TCZ_100	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	High_TCZ_100	0.29	1	
2	5_High_ECZ_100	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	High_ECZ_100	0.99	1	
3	5_High_HTZ_100	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	High_HTZ_100	0.54	1	
4	5_Low_TCZ_100	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	Low_TCZ_100	0.69	1	

5	5_Low_ECZ_100	5-River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW South Western Slopes Bioregion and the eastern Riverina Bioregion.	Low_ECZ_100	0.08	1	
6	266_High_TCZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	High_TCZ_100	4.93	2	
7	266_High_ECZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	High_ECZ_100	1.99	1	
8	266_High_HTZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	High_HTZ_100	0.72	1	
9	266_Moderate_TCZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	1.6	1	
10	266_Moderate_ECZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.16	1	
11	266_Moderate_HTZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.4	1	

12	266_Low_TCZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_TCZ_100	21.2	4	
13	266_Low_ECZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_ECZ_100	1.12	1	
14	266_Low_HTZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_HTZ_100	0.61	1	
15	268_High_TCZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	High_TCZ_100	5.03	3	
16	268_High_ECZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	High_ECZ_100	0.74	1	
17	268_High_HTZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	High_HTZ_100	0.31	1	

18	268_Moderate_TCZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.01	1	
19	268_Moderate_ECZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.11	1	
20	268_Moderate_HTZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.03	1	
21	268_Low_TCZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Low_TCZ_100	9.25	3	
22	268_Low_ECZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Low_ECZ_100	1.17	1	

23	268_Low_ECZ_5	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Low_ECZ_5	0.03	1	
24	268_Low_HTZ_100	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Low_HTZ_100	0.19	1	
25	268_Low_HTZ_5	268-White Box - Blakely's Red Gum - Long-leaved Box - Nortons Box - Red Stringybark grass-shrub woodland on shallow soils on hills in the NSW South Western Slopes Bioregion	Low_HTZ_5	0.01	1	
26	277_High_TCZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	High_TCZ_100	2.11	2	
27	277_High_ECZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	High_ECZ_100	1.38	1	
28	277_High_HTZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	High_HTZ_100	0.61	1	

29	277_Moderate_TCZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	1.23	1	
30	277_Moderate_ECZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.65	1	
31	277_Moderate_HTZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.41	1	
32	277_Low_TCZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low_TCZ_100	4.36	2	
33	277_Low_TCZ_5	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low_TCZ_5	0.75	1	
34	277_Low_ECZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low_ECZ_100	3.02	2	
35	277_Low_ECZ_5	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low_ECZ_5	0.44	1	
36	277_Low_HTZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low_HTZ_100	1.74	1	

37	277_Low_HTZ_5	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Low_HTZ_5	0.02	1	
38	277_Verylow_TCZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_TCZ_100	51.39	5	
39	277_Verylow_TCZ_5-25	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_TCZ_5-25	0.1	1	
40	277_Verylow_TCZ_5	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_TCZ_5	0.03	1	
41	277_Verylow_ECZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_ECZ_100	1.35	1	
42	277_Verylow_ECZ_5	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_ECZ_5	0.04	1	
43	277_Verylow_HTZ_100	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_HTZ_100	0.41	1	
44	277_Verylow_HTZ_5	277-Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Verylow_HTZ_5	0.02	1	

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038907

Proposal Name
6699 Humelink Assessment - Inland Slopes 2

BAM data last updated *
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Assessor Name
Simon Tweed

Assessor Number
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Proponent Name(s)
Jack McGovern

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Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	Endangered Ecological Community	301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt

Species
Acacia phasmoides / Phantom Wattle
Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix
Caladenia concolor / Crimson Spider Orchid
Grevillea wilkinsonii / Tumut Grevillea
Zieria obcordata / Granite Zieria
Euphrasia arguta / Euphrasia arguta

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

BAM Biodiversity Credit Report (Variations)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	13.6	69	59	128.00
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42.9	723	0	723.00
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Not a TEC	1.2	15	1	16.00
290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Not a TEC	5.5	48	18	66.00
294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion	Not a TEC	0.0	1	0	1.00
297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Not a TEC	1.1	11	0	11.00

299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Not a TEC	1.4	0	5	5.00
301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	1.4	0	28	28.00

278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	278_High_TCZ_100	Yes	29	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	278_High_ECZ_100	Yes	32	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	278_High_HTZ_100	Yes	8	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	278_Moderate_TCZ_100	No	19	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	278_Moderate_TCZ_5	No	3	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	White Box - Yellow Box -	-	278_Moder	No	27	Inland Slopes,Bogan-Macquarie, Bondo,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,		ate_ECZ_100			Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,	-	278_Moderate_HTZ_100	No	10	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	278_Verylow_TCZ_100	Yes	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	278_Verylow_ECZ_100	Yes	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381,	-	278_Verylow_HTZ_100	Yes	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	280_High_TCZ_100	Yes	337	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	280_High_TCZ_25-100	Yes	26	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	White Box - Yellow Box -	-	280_High_E	Yes	121	Inland Slopes,Bogan-Macquarie, Bondo,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,		CZ_100			Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606,	-	280_High_ECZ_25-100	Yes	3	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	280_High_HTZ_100	Yes	13	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	280_High_HTZ_25-100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381,	-	280_Moderate_TCZ_100	Yes	157	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	280_Moderate_TCZ_25-100	Yes	21	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_Moderate_ECZ_100	Yes	29	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the	-	280_Moderate_ECZ_25-100	Yes	9	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman,

	NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387,	-	280_Moderate_HTZ_100	Yes	5	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329,	-	280_Moderate_HTZ_25-100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	280_Low_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	280_Low_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	280_Verylow_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	280_Verylow_TCZ_5	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	280_Verylow_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived	-	280_Verylow_ECZ_5	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower

	Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149,					Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359,	-	280_Verylow_HTZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_Verylow_HTZ_5	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Moderate_TCZ_100	Yes	9	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Moderate_ECZ_100	Yes	5	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Moderate_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_TCZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Verylow_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Verylow_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Moderate_TCZ_100	Yes (including artificial)	9	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Moderate_ECZ_100	Yes (including artificial)	5	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Low_TCZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Verylow_TCZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Verylow_ECZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_High_TCZ_100	Yes	22	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_High_ECZ_100	Yes	10	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_High_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_TCZ_100	Yes	9	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_TCZ_5	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_ECZ_100	Yes	4	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Verylow_TCZ_100	No	15	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Verylow_ECZ_100	No	2	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Verylow_HTZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_High_TCZ_100	Yes (including artificial)	22	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_High_ECZ_100	Yes (including artificial)	10	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_High_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Low_TCZ_100	Yes (including artificial)	9	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Low_TCZ_5	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Low_ECZ_100	Yes (including artificial)	4	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Low_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Verylow_TCZ_100	No	15	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Verylow_ECZ_100	No	2	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	290_Verylow_HTZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	294_Moderate_ECZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	294_Moderate_ECZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Moderate_TCZ_100	Yes	8	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Moderate_ECZ_100	Yes	2	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Moderate_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Low_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Low_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	297_Moderate_TCZ_100	Yes (including artificial)	8	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	297_Moderate_ECZ_100	Yes (including artificial)	2	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	297_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	297_Low_TCZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	297_Low_ECZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Low_TCZ_100	No	4	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Low_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_HTZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Low_TCZ_100	No	4	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Low_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Verylow_TCZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Verylow_ECZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	299_Verylow_HTZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions This includes PCT's: 301, 337	-	301_High_TCZ_100	No	12	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions This includes PCT's: 301, 337	-	301_Moderate_TCZ_100	No	8	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions This includes PCT's: 301, 337	-	301_Low_TCZ_100	No	8	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 3 or higher threat status	301_High_TCZ_100	No	12	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	301_Moderate_TCZ_100	No	8	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	301_Low_TCZ_100	No	8	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia phasmoides / Phantom Wattle	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100**	2.0	6.00

Ammobium craspedioides / Yass Daisy	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Verylow_TCZ_100, 290_High_ECZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100**	37.0	74.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 278_Verylow_TCZ_100, 278_Verylow_ECZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Verylow_TCZ_100, 280_Verylow_ECZ_100, 280_Verylow_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100,**	36.9	559.00

	290_Verylow_TCZ_100, **290_Verylow_ECZ_100,** **294_Moderate_ECZ_100**		
Burhinus grallarius / Bush Stone-curlew	**280_High_TCZ_100,** **280_High_TCZ_25-100,** **280_High_ECZ_100,** **280_High_ECZ_25-100,** **280_High_HTZ_100,** **280_High_HTZ_25-100,** **280_Moderate_TCZ_100,** **280_Moderate_TCZ_25-100,** **280_Moderate_ECZ_100,** **280_Moderate_ECZ_25-100,** **280_Moderate_HTZ_100,** **280_Moderate_HTZ_25-100,** **280_Low_TCZ_100,** **280_Low_ECZ_100,** **287_Moderate_TCZ_100,** **287_Moderate_ECZ_100,** **287_Moderate_HTZ_100,** **290_High_TCZ_100,** **290_High_ECZ_100,** **290_High_HTZ_100,** **290_Low_TCZ_100,** **290_Low_TCZ_5,** **290_Low_ECZ_100,** **290_Low_HTZ_100**	26.7	630.00

Caesia parviflora var. minor / Small Pale Grass-lily	**297_Moderate_TCZ_100, 297_Moderate_ECZ_100, 297_Moderate_HTZ_100, 297_Low_TCZ_100, 297_Low_ECZ_100**	0.2	7.00
Caladenia concolor / Crimson Spider Orchid	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100**	24.7	919.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	10.4	252.00
Calyptorhynchus lathami / Glossy Black-Cockatoo	**290_Low_TCZ_100, 290_Low_ECZ_100**	0.4	5.00

Cercartetus nanus / Eastern Pygmy-possum	**280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 294_Moderate_ECZ_100**	6.9	148.00
Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix	**287_Moderate_TCZ_100**	1.0	3.00
Eucalyptus cannonii / Capertee Stringybark	**290_Low_TCZ_100**	1.0	2.00
Euphrasia arguta / Euphrasia arguta	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 287_Verylow_ECZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100, 290_Verylow_HTZ_100**	5.6	93.00

Grevillea wilkinsonii / Tumut Grevillea	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 301_High_TCZ_100, 301_Moderate_TCZ_100, 301_Low_TCZ_100**	7.2	168.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Low_ECZ_100, 290_High_ECZ_100**	6.8	135.00

Hieraaetus morphnoides / Little Eagle	**278_High_TCZ_100,** **278_High_ECZ_100,** **278_High_HTZ_100,** **278_Moderate_TCZ_100,** **278_Moderate_TCZ_5,** **278_Moderate_ECZ_100,** **278_Moderate_HTZ_100,** **280_High_TCZ_100,** **280_High_TCZ_25-100,** **280_High_ECZ_100,** **280_High_ECZ_25-100,** **280_High_HTZ_100,** **280_High_HTZ_25-100,** **280_Moderate_TCZ_100,** **280_Moderate_TCZ_25-100,** **280_Moderate_ECZ_100,** **280_Moderate_ECZ_25-100,** **280_Moderate_HTZ_100,** **280_Moderate_HTZ_25-100,** **280_Low_TCZ_100,** **280_Low_ECZ_100,** **287_Moderate_TCZ_100,** **287_Moderate_ECZ_100,** **287_Moderate_HTZ_100,** **290_High_TCZ_100,** **290_High_ECZ_100,** **290_High_HTZ_100,** **290_Low_TCZ_100,** **290_Low_TCZ_5,** **290_Low_ECZ_100,** **290_Low_HTZ_100,**	34.1	574.00

	294_Moderate_ECZ_100, 297_Moderate_TCZ_100, 297_Moderate_ECZ_100, 297_Moderate_HTZ_100, 297_Low_TCZ_100, 299_Low_TCZ_100, 299_Low_ECZ_100, 301_High_TCZ_100, 301_Low_TCZ_100		
Keyacris scurra / Key's Matchstick Grasshopper	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 278_Verylow_TCZ_100, 278_Verylow_ECZ_100, 278_Verylow_HTZ_100**	13.6	125.00
Lophoictinia isura / Square-tailed Kite	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100,**	32.7	547.00

	280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Low_TCZ_100, 280_Low_ECZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 294_Moderate_ECZ_100		

Ninox connivens / Barking Owl	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100**	10.0	239.00
Ninox strenua / Powerful Owl	**290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100**	1.4	36.00

Persoonia marginata / Clandulla Geebung	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 287_Verylow_ECZ_100**	1.2	20.00
Petaurus norfolcensis / Squirrel Glider	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	11.2	262.00

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	11.2	262.00
Petroica rodinogaster / Pink Robin	**299_Verylow_TCZ_100, 299_Verylow_ECZ_100**	0.3	1.00

Phascolarctos cinereus / Koala	**278_High_TCZ_100,** **278_High_ECZ_100,** **278_High_HTZ_100,** **278_Moderate_TCZ_100,** **278_Moderate_TCZ_5,** **278_Moderate_ECZ_100,** **278_Moderate_HTZ_100,** **280_High_TCZ_100,** **280_High_TCZ_25-100,** **280_High_ECZ_100,** **280_High_ECZ_25-100,** **280_High_HTZ_100,** **280_High_HTZ_25-100,** **280_Moderate_TCZ_100,** **280_Moderate_TCZ_25-100,** **280_Moderate_ECZ_100,** **280_Moderate_ECZ_25-100,** **280_Moderate_HTZ_100,** **280_Moderate_HTZ_25-100,** **280_Low_TCZ_100,** **280_Low_ECZ_100,** **287_Moderate_TCZ_100,** **287_Moderate_ECZ_100,** **287_Moderate_HTZ_100,** **290_High_TCZ_100,** **290_High_ECZ_100,** **290_High_HTZ_100,** **290_Low_TCZ_100,** **290_Low_TCZ_5,** **290_Low_ECZ_100,** **290_Low_HTZ_100,**	35.1	774.00

	294_Moderate_ECZ_100, 297_Moderate_TCZ_100, 297_Moderate_ECZ_100, 297_Moderate_HTZ_100, 297_Low_TCZ_100, 299_Low_TCZ_100, 299_Low_ECZ_100, 301_High_TCZ_100, 301_Low_TCZ_100		
Polytelis swainsonii / Superb Parrot	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100**	9.7	225.00

Pultenaea humilis / Dwarf Bush-pea	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100**	1.1	24.00
Senecio garlandii / Woolly Ragwort	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Low_TCZ_100, 290_High_TCZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100**	1.2	13.00

Swainsona sericea / Silky Swainson-pea	**280_High_TCZ_100,** **280_High_TCZ_25-100,** **280_High_ECZ_100,** **280_High_ECZ_25-100,** **280_High_HTZ_100,** **280_High_HTZ_25-100,** **280_Moderate_TCZ_100,** **280_Moderate_TCZ_25-100,** **280_Moderate_ECZ_100,** **280_Moderate_ECZ_25-100,** **280_Moderate_HTZ_100,** **280_Moderate_HTZ_25-100,** **280_Low_TCZ_100,** **280_Low_ECZ_100,** **280_Verylow_TCZ_100,** **280_Verylow_TCZ_5,** **280_Verylow_ECZ_100,** **280_Verylow_ECZ_5,** **280_Verylow_HTZ_100,** **280_Verylow_HTZ_5,** **290_High_TCZ_100,** **290_High_ECZ_100,** **290_High_HTZ_100,** **290_Low_TCZ_100,** **290_Low_TCZ_5,** **290_Low_ECZ_100,** **290_Low_HTZ_100,** **290_Verylow_TCZ_100,** **290_Verylow_ECZ_100,** **290_Verylow_HTZ_100**	44.7	602.00

Synemon plana / Golden Sun Moth	**278_Moderate_TCZ_100, 278_Verylow_TCZ_100, 280_Moderate_TCZ_100**	0.4	3.00
Tyto novaehollandiae / Masked Owl	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	8.8	222.00

Zieria obcordata / Granite Zieria	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Verylow_TCZ_100, 280_Verylow_ECZ_100, 280_Verylow_HTZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 287_Verylow_ECZ_100**	35.3	760.00

Credit Retirement Options

Like-for-like options

Acacia phasmoides/ Phantom Wattle	Spp		IBRA region
	Acacia phasmoides/Phantom Wattle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ammobium craspedioides/ Yass Daisy	Spp	IBRA region	
	Ammobium craspedioides/Yass Daisy	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Aprasia parapulchella/ Pink-tailed Legless Lizard	Spp	IBRA region	
	Aprasia parapulchella/Pink-tailed Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Burhinus grallarius/ Bush Stone-curlew	Spp		IBRA region
	Burhinus grallarius/Bush Stone-curlew		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Caesia parviflora var. minor/ Small Pale Grass-lily	Spp		IBRA region
	Caesia parviflora var. minor/Small Pale Grass-lily		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Caladenia concolor/ Crimson Spider Orchid	Spp	IBRA region	
	Caladenia concolor/Crimson Spider Orchid	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp		IBRA region
	Callocephalon fimbriatum/Gang-gang Cockatoo		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Calyptorhynchus lathami/ Glossy Black-Cockatoo	Spp		IBRA region
	Calyptorhynchus lathami/Glossy Black-Cockatoo		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cercartetus nanus/ Eastern Pygmy-possum	Spp	IBRA region	
	Cercartetus nanus/Eastern Pygmy-possum	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Eucalyptus alligatrix subsp. alligatrix/ Eucalyptus alligatrix subsp. alligatrix	Spp		IBRA region
	Eucalyptus alligatrix subsp. alligatrix/Eucalyptus alligatrix subsp. alligatrix		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Eucalyptus cannonii/ Capertee Stringybark	Spp		IBRA region
	Eucalyptus cannonii/Capertee Stringybark		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Euphrasia arguta/ Euphrasia arguta	Spp	IBRA region
	Euphrasia arguta/Euphrasia arguta *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Grevillea wilkinsonii/ Tumut Grevillea	Spp	IBRA region
	Grevillea wilkinsonii/Tumut Grevillea *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Haliaeetus leucogaster/ White-bellied Sea-Eagle	Spp	IBRA region
	Haliaeetus leucogaster/White-bellied Sea-Eagle	Any in NSW
	Variation options	

Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act	IBRA region

		shown below	
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Hieraaetus morphnoides/ Little Eagle	Spp	IBRA region	
	Hieraaetus morphnoides/Little Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Keyacris scurra/ Key's Matchstick Grasshopper	Spp		IBRA region
	Keyacris scurra/Key's Matchstick Grasshopper		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Lophoictinia isura/ Square-tailed Kite	Spp		IBRA region
	Lophoictinia isura/Square-tailed Kite		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox connivens/ Barking Owl	Spp	IBRA region	
	Ninox connivens/Barking Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Ninox strenua/ Powerful Owl	Spp		IBRA region
	Ninox strenua/Powerful Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Persoonia marginata/ Clandulla Geebung	Spp		IBRA region
	Persoonia marginata/Clandulla Geebung		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	
	Petaurus norfolcensis/Squirrel Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Petaurus norfolcensis - endangered population/ Squirrel Glider in the Wagga Wagga Local Government Area	Spp		IBRA region
	Petaurus norfolcensis - endangered population/Squirrel Glider in the Wagga Wagga Local Government Area		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered Population	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petroica rodinogaster/ Pink Robin	Spp		IBRA region
	Petroica rodinogaster/Pink Robin		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp	IBRA region	
	Phascolarctos cinereus/Koala	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Polytelis swainsonii/ Superb Parrot	Spp		IBRA region
	Polytelis swainsonii/Superb Parrot		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pultenaea humilis/ Dwarf Bush-pea	Spp		IBRA region
	Pultenaea humilis/Dwarf Bush-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Senecio garlandii/ Woolly Ragwort	Spp	IBRA region	
	Senecio garlandii/Woolly Ragwort	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Swainsona sericea/ Silky Swainson-pea	Spp		IBRA region
	Swainsona sericea/Silky Swainson-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Synemon plana/ Golden Sun Moth	Spp		IBRA region
	Synemon plana/Golden Sun Moth		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tyto novaehollandiae/ Masked Owl	Spp	IBRA region	
	Tyto novaehollandiae/Masked Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Zieria obcordata/ Granite Zieria	Spp		IBRA region
	Zieria obcordata/Granite Zieria		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038907

Proposal Name
6699 Humelink Assessment - Inland Slopes 2

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
0

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	Endangered Ecological Community	301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt

Species
Acacia phasmoides / Phantom Wattle
Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix
Caladenia concolor / Crimson Spider Orchid
Grevillea wilkinsonii / Tumut Grevillea
Zieria obcordata / Granite Zieria
Euphrasia arguta / Euphrasia arguta

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	13.6	69	59	128
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42.9	723	0	723
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Not a TEC	1.2	15	1	16

290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Not a TEC	5.5	48	18	66
294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion	Not a TEC	0.0	1	0	1
297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Not a TEC	1.1	11	0	11
299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Not a TEC	1.4	0	5	5
301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	1.4	0	28	28

278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native	-	278_High_TCZ_100	Yes	29	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans,

	Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359,					Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	278_High_ECZ_100	Yes	32	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	278_High_HTZ_100	Yes	8	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native	-	278_Moderate_TCZ_100	No	19	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans,

	Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359,					Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	278_Moderate_TCZ_5	No	3	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	278_Moderate_ECZ_100	No	27	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native	-	278_Moderate_HTZ_100	No	10	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans,

	Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359,					Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	278_Verylow_TCZ_100	Yes	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	278_Verylow_ECZ_100	Yes	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native	-	278_Verylow_HTZ_100	Yes	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans,

	Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359,					Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_High_TCZ_100	Yes	337	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_High_TCZ_25-100	Yes	26	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_High_ECZ_100	Yes	121	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_High_ECZ_25-100	Yes	3	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_High_HTZ_100	Yes	13	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_High_HTZ_25-100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_Moderate_TCZ_100	Yes	157	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_Moderate_TCZ_25-100	Yes	21	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_Moderate_ ECZ_100	Yes	29	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_Moderate_ECZ_25-100	Yes	9	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_Moderate_HTZ_100	Yes	5	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_Moderate_HTZ_25-100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_Low_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_Low_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_Verylow_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_Verylow_TCZ_5	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_Verylow_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303,	-	280_Verylow_ECZ_5	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_Verylow_HTZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	280_Verylow_HTZ_5	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.

287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Moderate_TCZ_100	Yes	9	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Moderate_ECZ_100	Yes	5	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Moderate_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_TCZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Verylow_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Verylow_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_High_TCZ_100	Yes	22	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_High_ECZ_100	Yes	10	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_High_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_TCZ_100	Yes	9	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_TCZ_5	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_ECZ_100	Yes	4	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Low_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Verylow_TCZ_100	No	15	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Verylow_ECZ_100	No	2	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	290_Verylow_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	294_Moderate_ ECZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Moderate_TCZ_100	Yes	8	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Moderate_ECZ_100	Yes	2	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Moderate_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Low_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	297_Low_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Low_TCZ_100	No	4	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Low_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 730, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	299_Verylow_HTZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region

	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions This includes PCT's: 301, 337	-	301_High_TCZ_100	No	12	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions This includes PCT's: 301, 337	-	301_Moderate_TCZ_100	No	8	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions This includes PCT's: 301, 337	-	301_Low_TCZ_100	No	8	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia phasmoides / Phantom Wattle	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100**	2.0	6.00

Ammobium craspedioides / Yass Daisy	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Verylow_TCZ_100, 290_High_ECZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100**	37.0	74.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 278_Verylow_TCZ_100, 278_Verylow_ECZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Verylow_TCZ_100, 280_Verylow_ECZ_100, 280_Verylow_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100,**	36.9	559.00

	290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100, 294_Moderate_ECZ_100		

Burhinus grallarius / Bush Stone-curlew	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Low_TCZ_100, 280_Low_ECZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100**	26.7	630.00

Caesia parviflora var. minor / Small Pale Grass-lily	**297_Moderate_TCZ_100, 297_Moderate_ECZ_100, 297_Moderate_HTZ_100, 297_Low_TCZ_100, 297_Low_ECZ_100**	0.2	7.00
Caladenia concolor / Crimson Spider Orchid	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100**	24.7	919.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	10.4	252.00
Calyptorhynchus lathami / Glossy Black-Cockatoo	**290_Low_TCZ_100, 290_Low_ECZ_100**	0.4	5.00

Cercartetus nanus / Eastern Pygmy-possum	**280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 294_Moderate_ECZ_100**	6.9	148.00
Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix	**287_Moderate_TCZ_100**	1.0	3.00
Eucalyptus cannonii / Capertee Stringybark	**290_Low_TCZ_100**	1.0	2.00

Euphrasia arguta / Euphrasia arguta	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 287_Verylow_ECZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100, 290_Verylow_HTZ_100**	5.6	93.00
Grevillea wilkinsonii / Tumut Grevillea	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 301_High_TCZ_100, 301_Moderate_TCZ_100, 301_Low_TCZ_100**	7.2	168.00

Haliaeetus leucogaster / White-bellied Sea-Eagle	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Low_ECZ_100, 290_High_ECZ_100**	6.8	135.00

Hieraaetus morphnoides / Little Eagle	**278_High_TCZ_100,** **278_High_ECZ_100,** **278_High_HTZ_100,** **278_Moderate_TCZ_100,** **278_Moderate_TCZ_5,** **278_Moderate_ECZ_100,** **278_Moderate_HTZ_100,** **280_High_TCZ_100,** **280_High_TCZ_25-100,** **280_High_ECZ_100,** **280_High_ECZ_25-100,** **280_High_HTZ_100,** **280_High_HTZ_25-100,** **280_Moderate_TCZ_100,** **280_Moderate_TCZ_25-100,** **280_Moderate_ECZ_100,** **280_Moderate_ECZ_25-100,** **280_Moderate_HTZ_100,** **280_Moderate_HTZ_25-100,** **280_Low_TCZ_100,** **280_Low_ECZ_100,** **287_Moderate_TCZ_100,** **287_Moderate_ECZ_100,** **287_Moderate_HTZ_100,** **290_High_TCZ_100,** **290_High_ECZ_100,** **290_High_HTZ_100,**	34.1	574.00

	290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 294_Moderate_ECZ_100, 297_Moderate_TCZ_100, 297_Moderate_ECZ_100, 297_Moderate_HTZ_100, 297_Low_TCZ_100, 299_Low_TCZ_100, 299_Low_ECZ_100, 301_High_TCZ_100, 301_Low_TCZ_100		
Keyacris scurra / Key's Matchstick Grasshopper	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 278_Verylow_TCZ_100, 278_Verylow_ECZ_100, 278_Verylow_HTZ_100**	13.6	125.00

Lophoictinia isura / Square-tailed Kite	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Low_TCZ_100, 280_Low_ECZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100,**	32.7	547.00

	290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 294_Moderate_ECZ_100		

Ninox connivens / Barking Owl	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100**	10.0	239.00

Ninox strenua / Powerful Owl	**290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100**	1.4	36.00
Persoonia marginata / Clandulla Geebung	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 287_Verylow_ECZ_100**	1.2	20.00

Petaurus norfolcensis / Squirrel Glider	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	11.2	262.00

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	11.2	262.00
Petroica rodinogaster / Pink Robin	**299_Verylow_TCZ_100, 299_Verylow_ECZ_100**	0.3	1.00

Phascolarctos cinereus / Koala	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_TCZ_5, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Low_TCZ_100, 280_Low_ECZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100,**	35.1	774.00

	290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100, 294_Moderate_ECZ_100, 297_Moderate_TCZ_100, 297_Moderate_ECZ_100, 297_Moderate_HTZ_100, 297_Low_TCZ_100, 299_Low_TCZ_100, 299_Low_ECZ_100, 301_High_TCZ_100, 301_Low_TCZ_100		

Polytelis swainsonii / Superb Parrot	**278_High_TCZ_100, 278_High_ECZ_100, 278_High_HTZ_100, 278_Moderate_TCZ_100, 278_Moderate_ECZ_100, 278_Moderate_HTZ_100, 280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100**	9.7	225.00
Pultenaea humilis / Dwarf Bush-pea	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100**	1.1	24.00

Senecio garlandii / Woolly Ragwort	**287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Low_TCZ_100, 290_High_TCZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 290_Verylow_TCZ_100, 290_Verylow_ECZ_100**	1.2	13.00

Swainsona sericea / Silky Swainson-pea	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Low_TCZ_100, 280_Low_ECZ_100, 280_Verylow_TCZ_100, 280_Verylow_TCZ_5, 280_Verylow_ECZ_100, 280_Verylow_ECZ_5, 280_Verylow_HTZ_100, 280_Verylow_HTZ_5, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_TCZ_5, 290_Low_ECZ_100, 290_Low_HTZ_100,**	44.7	602.00

	290_Verylow_TCZ_100, 290_Verylow_ECZ_100, 290_Verylow_HTZ_100		
Synemon plana / Golden Sun Moth	**278_Moderate_TCZ_100, 278_Verylow_TCZ_100, 280_Moderate_TCZ_100**	0.4	3.00
Tyto novaehollandiae / Masked Owl	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 290_High_TCZ_100, 290_High_ECZ_100, 290_High_HTZ_100, 290_Low_TCZ_100, 290_Low_ECZ_100, 294_Moderate_ECZ_100**	8.8	222.00

Zieria obcordata / Granite Zieria	**280_High_TCZ_100, 280_High_TCZ_25-100, 280_High_ECZ_100, 280_High_ECZ_25-100, 280_High_HTZ_100, 280_High_HTZ_25-100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_25-100, 280_Moderate_ECZ_100, 280_Moderate_ECZ_25-100, 280_Moderate_HTZ_100, 280_Moderate_HTZ_25-100, 280_Verylow_TCZ_100, 280_Verylow_ECZ_100, 280_Verylow_HTZ_100, 287_Moderate_TCZ_100, 287_Moderate_ECZ_100, 287_Moderate_HTZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 287_Verylow_ECZ_100**	35.3	760.00

Credit Retirement Options

Like-for-like credit retirement options

Acacia phasmoides / Phantom Wattle	Spp	IBRA subregion
	Acacia phasmoides / Phantom Wattle	Any in NSW

Ammobium craspedioides / Yass Daisy	Spp	IBRA subregion
	Ammobium craspedioides / Yass Daisy	Any in NSW
Aprasia parapulchella / Pink-tailed Legless Lizard	Spp	IBRA subregion
	Aprasia parapulchella / Pink-tailed Legless Lizard	Any in NSW
Burhinus grallarius / Bush Stone-curlew	Spp	IBRA subregion
	Burhinus grallarius / Bush Stone-curlew	Any in NSW
Caesia parviflora var. minor / Small Pale Grass-lily	Spp	IBRA subregion
	Caesia parviflora var. minor / Small Pale Grass-lily	Any in NSW
Caladenia concolor / Crimson Spider Orchid	Spp	IBRA subregion
	Caladenia concolor / Crimson Spider Orchid	Any in NSW
Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calyptorhynchus lathami / Glossy Black-Cockatoo	Spp	IBRA subregion

	Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix	Spp	IBRA subregion
	Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix	Any in NSW
Eucalyptus cannonii / Capertee Stringybark	Spp	IBRA subregion
	Eucalyptus cannonii / Capertee Stringybark	Any in NSW
Euphrasia arguta / Euphrasia arguta	Spp	IBRA subregion
	Euphrasia arguta / Euphrasia arguta	Any in NSW
Grevillea wilkinsonii / Tumut Grevillea	Spp	IBRA subregion
	Grevillea wilkinsonii / Tumut Grevillea	Any in NSW
Haliaeetus leucogaster / White-bellied Sea-Eagle	Spp	IBRA subregion
	Haliaeetus leucogaster / White-bellied Sea-Eagle	Any in NSW

Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Keyacris scurra / Key's Matchstick Grasshopper	Spp	IBRA subregion
	Keyacris scurra / Key's Matchstick Grasshopper	Any in NSW
Lophoictinia isura / Square-tailed Kite	Spp	IBRA subregion
	Lophoictinia isura / Square-tailed Kite	Any in NSW
Ninox connivens / Barking Owl	Spp	IBRA subregion
	Ninox connivens / Barking Owl	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Persoonia marginata / Clandulla Geebung	Spp	IBRA subregion
	Persoonia marginata / Clandulla Geebung	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion

	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	Spp	IBRA subregion
	Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	Any in NSW
Petroica rodinogaster / Pink Robin	Spp	IBRA subregion
	Petroica rodinogaster / Pink Robin	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Pultenaea humilis / Dwarf Bush-pea	Spp	IBRA subregion
	Pultenaea humilis / Dwarf Bush-pea	Any in NSW
Senecio garlandii / Woolly Ragwort	Spp	IBRA subregion
	Senecio garlandii / Woolly Ragwort	Any in NSW

Swainsona sericea / Silky Swainson-pea	Spp	IBRA subregion
	Swainsona sericea / Silky Swainson-pea	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW
Tyto novaehollandiae / Masked Owl	Spp	IBRA subregion
	Tyto novaehollandiae / Masked Owl	Any in NSW
Zieria obcordata / Granite Zieria	Spp	IBRA subregion
	Zieria obcordata / Granite Zieria	Any in NSW

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/23/00038907	Proposal Name 6699 Humelink Assessment - Inland Slopes 2	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 0	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Acacia phasmoides Phantom Wattle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ammobium craspedioides Yass Daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Burhinus grallarius Bush Stone-curlew	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caesia parviflora var. minor Small Pale Grass-lily	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia concolor Crimson Spider Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Eucalyptus alligatrix subsp. alligatrix Eucalyptus alligatrix subsp. alligatrix	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus cannonii Capertee Stringybark	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Euphrasia arguta Euphrasia arguta	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Grevillea wilkinsonii Tumut Grevillea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Keyacris scurra Key's Matchstick Grasshopper	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Persoonia marginata Clandulla Geebung	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis Squirrel Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

***Petaurus norfolcensis* - endangered population** Squirrel Glider in the Wagga Wagga Local Government Area	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Polytelis swainsonii Superb Parrot	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pultenaea humilis Dwarf Bush-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Senecio garlandii Woolly Ragwort	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Swainsona recta Small Purple-pea	No (expert report)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Synemon plana Golden Sun Moth	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Tyto novaehollandiae Masked Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Zieria obcordata Granite Zieria	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

Common Name	Scientific Name
Golden Sun Moth	Synemon plana

Threatened species assessed as not on site

Refer to BAR for detailed justification

BAM Candidate Species Report

Common name	Scientific name	Justification in the BAM-C
Booroolong Frog	Litoria booroolongensis	Refer to BAR
Brush-tailed Phascogale	Phascogale tapoatafa	Geographic limitations
Brush-tailed Rock-wallaby	Petrogale penicillata	Refer to BAR
Grey-headed Flying-fox	Pteropus poliocephalus	Refer to BAR
Large Bent-winged Bat	Miniopterus orianae oceanensis	Refer to BAR
Regent Honeyeater	Anthochaera phrygia	Refer to BAR
Southern Greater Glider	Petauroides volans	Refer to BAR
Southern Myotis	Myotis macropus	Refer to BAR
Swift Parrot	Lathamus discolor	Refer to BAR

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038907

Proposal Name
6699 Humelink Assessment - Inland Slopes 2

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
0

Assessment Type
Major Projects

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Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion												
48	297_Moderate_TCZ_100	Not a TEC	52.7	52.7	0.42	PCT Cleared - 38%	High Sensitivity to Gain			1.50		8

49	297_Moderate_ECZ_100	Not a TEC	52.7	32.0	0.16	PCT Cleared - 38%	High Sensitivity to Gain			1.50		2
50	297_Moderate_HTZ_100	Not a TEC	52.7	3.1	0.02	PCT Cleared - 38%	High Sensitivity to Gain			1.50		1
51	297_Low_TCZ_100	Not a TEC	11.5	11.5	0.46	PCT Cleared - 38%	High Sensitivity to Gain			1.50		0
52	297_Low_ECZ_100	Not a TEC	11.5	6.0	0.02	PCT Cleared - 38%	High Sensitivity to Gain			1.50		0
											Subtotal	**11**
Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt												
58	301_High_TCZ_100	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	66.2	66.2	0.37	Geographic Distribution	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	12

59	301_Moderate_TCZ_100	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	37.1	37.1	0.42	Geographic Distribution	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	8
60	301_Low_TCZ_100	Coolac-Tumut Serpentinite Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions	24.3	24.3	0.63	Geographic Distribution	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	8
											Subtotal	**28**
Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion												
31	287_Moderate_TCZ_100	Not a TEC	42.1	42.1	0.49	PCT Cleared - 67%	High Sensitivity to Gain			1.75		9
32	287_Moderate_ECZ_100	Not a TEC	42.1	33.9	0.32	PCT Cleared - 67%	High Sensitivity to Gain			1.75		5

33	287_Moderate_HTZ_100	Not a TEC	42.1	24.4	0.02	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
34	287_Low_TCZ_100	Not a TEC	26	26.0	0.06	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
35	287_Verylow_TCZ_100	Not a TEC	12.3	12.3	0.25	PCT Cleared - 67%	High Sensitivity to Gain			1.75		0
36	287_Verylow_ECZ_100	Not a TEC	12.3	12.3	0.02	PCT Cleared - 67%	High Sensitivity to Gain			1.75		0
											Subtotal	**16**
Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion												
47	294_Moderate_ECZ_100	Not a TEC	27.1	25.0	0.04	PCT Cleared - 47%	High Sensitivity to Gain			1.50		1
											Subtotal	**1**

Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion												
11	280_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	67.1	67.1	8	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	337

12	280_High_TCZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	67.1	67.1	0.61	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	26

13	280_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	67.1	46.4	4.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	121

14	280_High_ECZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	67.1	46.4	0.11	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

15	280_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	67.1	13.5	1.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	13

16	280_High_HTZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	67.1	13.5	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

17	280_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	45.1	45.1	5.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	157

18	280_Moderate_TCZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	45.1	45.1	0.74	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	21

19	280_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	45.1	32.8	1.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	29

20	280_Moderate_ECZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	45.1	32.8	0.43	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	9

21	280_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	45.1	12.3	0.65	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	5

22	280_Moderate_HTZ_25-100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	45.1	12.3	0.16	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

23	280_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	7.4	7.4	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

24	280_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	7.4	3.7	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

25	280_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	4.2	17.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

26	280_Veryl ow_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	4.2	0.24	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

27	280_Veryl ow_ECZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	1.9	0.89	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

28	280_Veryl ow_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	1.9	0.28	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

29	280_Veryl ow_HTZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	0.0	0.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

30	280_Veryl ow_HTZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	0.0	0.14	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtot al	**723**
Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion												
37	290_High_ TCZ_100	Not a TEC	76.5	76.5	0.65	PCT Cleared - 67%	High Sensitivity to Gain			1.75		22
38	290_High_ ECZ_100	Not a TEC	76.5	47.8	0.48	PCT Cleared - 67%	High Sensitivity to Gain			1.75		10
39	290_High_ HTZ_100	Not a TEC	76.5	7.0	0.18	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1

40	290_Low_TCZ_100	Not a TEC	18.4	18.4	1.2	PCT Cleared - 67%	High Sensitivity to Gain			1.75		9
41	290_Low_TCZ_5	Not a TEC	18.4	18.4	0.15	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
42	290_Low_ECZ_100	Not a TEC	18.4	14.3	0.58	PCT Cleared - 67%	High Sensitivity to Gain			1.75		4
43	290_Low_HTZ_100	Not a TEC	18.4	3.3	0.15	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
44	290_Verylow_TCZ_100	Not a TEC	18	18.0	1.9	PCT Cleared - 67%	High Sensitivity to Gain			1.75		15
45	290_Verylow_ECZ_100	Not a TEC	18	17.0	0.23	PCT Cleared - 67%	High Sensitivity to Gain			1.75		2
46	290_Verylow_HTZ_100	Not a TEC	18	16.0	0.01	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
											Subtotal	**66**

Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion												
1	278_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	68.2	68.2	0.68	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	29

2	278_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	68.2	49.5	1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	32

3	278_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	68.2	26.9	0.47	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	8

4	278_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	25.6	25.6	1.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	19

5	278_Moderate_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	25.6	25.6	0.18	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

6	278_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	25.6	20.3	2.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	27

7	278_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	25.6	16.3	0.94	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	10

8	278_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	6.2	6.2	6.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

9	278_Veryl ow_ECZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	6.2	5.3	0.22	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

10	278_Verylow_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	6.2	4.7	0.12	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**128**
Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion												
53	299_Low_TCZ_100	Not a TEC	40.8	40.8	0.24	PCT Cleared - 50%	High Sensitivity to Gain			1.75		4
54	299_Low_ECZ_100	Not a TEC	40.8	33.2	0.09	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1
55	299_Verylow_TCZ_100	Not a TEC	5.2	5.2	0.24	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0

56	299_Verylow_ECZ_100	Not a TEC	5.2	0.0	0.64	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
57	299_Verylow_HTZ_100	Not a TEC	5.2	0.0	0.21	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
											Subtotal	**5**
											Total	**978**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits
Acacia phasmoides / Phantom Wattle (Flora)									
287_Moderate_TCZ_100	N/A	N/A	1	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	True	3
287_Moderate_ECZ_100	N/A	N/A	1	Geographic Distribution	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	True	3
								Subtotal	**6**

Ammobium craspedioides / Yass Daisy (Flora)									
287_Moderate_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
287_Moderate_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
287_Verylow_TCZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
290_High_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
290_Low_TCZ_100	N/A	N/A	8	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	16
290_Low_TCZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
290_Low_ECZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	8

290_Low_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
290_Verylow_TCZ_100	N/A	N/A	12	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	24
290_Verylow_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
								Subtotal	**74**
Aprasia parapulchella / Pink-tailed Legless Lizard (Fauna)									
278_High_TCZ_100	68.2	68.2	0.68	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	23
278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	26
278_High_HTZ_100	26.9	26.9	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6

278_Moderate_TCZ_100	25.6	25.6	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
278_Moderate_TCZ_5	25.6	25.6	0.18	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
278_Moderate_ECZ_100	20.3	20.3	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12
278_Moderate_HTZ_100	16.3	16.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
278_Verylow_TCZ_100	6.2	6.2	0.95	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
278_Verylow_ECZ_100	5.3	5.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_High_TCZ_100	67.1	67.1	5.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	174

280_High_TCZ_25-100	67.1	67.1	0.58	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	19
280_High_ECZ_100	46.4	46.4	3.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	76
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
280_High_HTZ_100	13.5	13.5	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Moderate_TCZ_100	45.1	45.1	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	76
280_Moderate_TCZ_25-100	45.1	45.1	0.63	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	14

280_Moderate_ECZ_100	32.8	32.8	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	18
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7
280_Moderate_HTZ_100	12.3	12.3	0.46	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Verylow_TCZ_100	4.2	4.2	10.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	22
280_Verylow_ECZ_100	1.9	1.9	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Verylow_HTZ_100	0.0	0.0	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	0

290_High_TCZ_100	76.5	76.5	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25
290_High_ECZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
290_Low_TCZ_100	18.4	18.4	0.96	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	9
290_Low_TCZ_5	18.4	18.4	0.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
290_Low_ECZ_100	14.3	14.3	0.56	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

290_Verylow_TCZ_100	18.0	18.0	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	10
290_Verylow_ECZ_100	17.0	17.0	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**559**
Burhinus grallarius / Bush Stone-curlew (Fauna)									
280_High_TCZ_100	67.1	67.1	8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	270
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	20
280_High_ECZ_100	46.4	46.4	4.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	97

280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	3
280_High_HTZ_100	13.5	13.5	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	11
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	4.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	109
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	17
280_Moderate_ECZ_100	32.8	32.8	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	18

280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	7
280_Moderate_HTZ_100	12.3	12.3	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	4
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
280_Low_TCZ_100	7.4	7.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
280_Low_ECZ_100	3.7	3.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	10

287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	5
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	25
290_High_ECZ_100	47.8	47.8	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	11
290_High_HTZ_100	7.0	7.0	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	11

290_Low_TCZ_5	18.4	18.4	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
290_Low_ECZ_100	14.3	14.3	0.56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	4
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
								Subtotal	**630**
Caesia parviflora var. minor / Small Pale Grass-lily (Flora)									
297_Moderate_TCZ_100	52.7	52.7	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
297_Moderate_ECZ_100	32.0	32.0	0.16	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3
297_Moderate_HTZ_100	3.1	3.1	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1

297_Low_TCZ_100	11.5	11.5	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
297_Low_ECZ_100	6.0	6.0	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**7**
Caladenia concolor / Crimson Spider Orchid (Flora)									
280_High_TCZ_100	67.1	67.1	8	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	405
280_High_TCZ_25-100	67.1	67.1	0.61	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	31
280_High_ECZ_100	46.4	46.4	4.2	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	145

280_High_ECZ_25-100	46.4	46.4	0.11	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	4
280_High_HTZ_100	13.5	13.5	1.6	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	16
280_High_HTZ_25-100	13.5	13.5	0.03	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
280_Moderate_TCZ_100	45.1	45.1	5.6	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	188
280_Moderate_TCZ_25-100	45.1	45.1	0.63	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	21
280_Moderate_ECZ_100	32.8	32.8	1.4	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	35

280_Moderate_ECZ_25-100	32.8	32.8	0.43	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	11
280_Moderate_HTZ_100	12.3	12.3	0.65	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	6
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
290_High_TCZ_100	76.5	76.5	0.65	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	37
290_High_ECZ_100	47.8	47.8	0.48	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	17
290_High_HTZ_100	7.0	7.0	0.18	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1

								Subtotal	919
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
278_High_TCZ_100	68.2	68.2	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	5
278_High_ECZ_100	49.5	49.5	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
278_High_HTZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
278_Moderate_TCZ_100	25.6	25.6	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
278_Moderate_ECZ_100	20.3	20.3	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7
278_Moderate_HTZ_100	16.3	16.3	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2

280_High_TCZ_100	67.1	67.1	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	95
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	20
280_High_ECZ_100	46.4	46.4	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	40
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
280_High_HTZ_100	13.5	13.5	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	5
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
280_Moderate_TCZ_100	45.1	45.1	0.27	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6

280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	17
280_Moderate_ECZ_100	32.8	32.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7
280_Moderate_HTZ_100	12.3	12.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
290_High_TCZ_100	76.5	76.5	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	24
290_High_ECZ_100	47.8	47.8	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6

290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
290_Low_TCZ_100	18.4	18.4	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
								Subtotal	**252**
Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)									
290_Low_TCZ_100	18.4	18.4	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**5**

Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
280_High_TCZ_100	67.1	67.1	0.92	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	31
280_High_ECZ_100	46.4	46.4	0.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	12
280_High_HTZ_100	13.5	13.5	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	3.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	70
280_Moderate_ECZ_100	32.8	32.8	0.88	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	14

280_Moderate_HTZ_100	12.3	12.3	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
287_Moderate_TCZ_100	42.1	42.1	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
294_Moderate_ECZ_100	25.0	25.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**148**

Eucalyptus alligatrix subsp. alligatrix / Eucalyptus alligatrix subsp. alligatrix (Flora)									
287_Moderate_TCZ_100	N/A	N/A	1	Geographic Distribution	Ability to colonise improved habitat	Vulnerable	Vulnerable	True	3
								Subtotal	**3**
Eucalyptus cannonii / Capertee Stringybark (Flora)									
290_Low_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
								Subtotal	**2**
Euphrasia arguta / Euphrasia arguta (Flora)									
287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	15
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	8

287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
287_Low_TCZ_100	26.0	26.0	0.05	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
287_Verylow_TCZ_100	12.3	12.3	0.25	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	2
287_Verylow_ECZ_100	12.3	12.3	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
290_High_TCZ_100	76.5	76.5	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
290_High_ECZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	9

290_High_HTZ_100	7.0	7.0	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
290_Low_TCZ_100	18.4	18.4	1.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	16
290_Low_TCZ_5	18.4	18.4	0.15	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	2
290_Low_ECZ_100	14.3	14.3	0.58	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	6
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
290_Verylow_TCZ_100	18.0	18.0	1.9	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	25

290_Verylow_ECZ_100	17.0	17.0	0.23	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	3
290_Verylow_HTZ_100	16.0	16.0	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
								Subtotal	**93**
Grevillea wilkinsonii / Tumut Grevillea (Flora)									
278_High_TCZ_100	68.2	68.2	0.68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	35
278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	39
278_High_HTZ_100	26.9	26.9	0.47	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	9

278_Moderate_TCZ_100	25.6	25.6	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	20
278_Moderate_TCZ_5	25.6	25.6	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	3
278_Moderate_ECZ_100	20.3	20.3	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	32
278_Moderate_HTZ_100	16.3	16.3	0.92	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	11
301_High_TCZ_100	66.2	66.2	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	4
301_Moderate_TCZ_100	37.1	37.1	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	4

301_Low_TCZ_100	24.3	24.3	0.59	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	11
								Subtotal	**168**
Haliaeetus leucogaster / White-bellied Sea-Eagle (Fauna)									
278_High_TCZ_100	68.2	68.2	0.53	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	18
278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	25
278_High_HTZ_100	26.9	26.9	0.46	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	6
278_Moderate_TCZ_100	25.6	25.6	0.39	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	5
278_Moderate_ECZ_100	20.3	20.3	1	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	11

278_Moderate_HTZ_100	16.3	16.3	0.7	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	6
280_High_TCZ_100	67.1	67.1	0.57	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	19
280_High_ECZ_100	46.4	46.4	1.3	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	30
280_High_HTZ_100	13.5	13.5	0.28	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	2
280_Moderate_TCZ_100	45.1	45.1	0.36	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	8
280_Moderate_ECZ_100	32.8	32.8	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
280_Moderate_HTZ_100	12.3	12.3	0.04	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1

280_Low_TCZ_100	7.4	7.4	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
280_Low_ECZ_100	3.7	3.7	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
290_High_ECZ_100	47.8	47.8	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
								Subtotal	**135**
Hieraaetus morphnoides / Little Eagle (Fauna)									
278_High_TCZ_100	68.2	68.2	0.68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17
278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
278_High_HTZ_100	26.9	26.9	0.47	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

278_Moderate_TCZ_100	25.6	25.6	0.98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
278_Moderate_TCZ_5	25.6	25.6	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
278_Moderate_ECZ_100	20.3	20.3	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
278_Moderate_HTZ_100	16.3	16.3	0.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
280_High_TCZ_100	67.1	67.1	8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	202
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	15

280_High_ECZ_100	46.4	46.4	4.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	73
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
280_High_HTZ_100	13.5	13.5	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	4.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	82
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13

280_Moderate_ECZ_100	32.8	32.8	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
280_Moderate_HTZ_100	12.3	12.3	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Low_TCZ_100	7.4	7.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Low_ECZ_100	3.7	3.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
290_High_ECZ_100	47.8	47.8	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
290_High_HTZ_100	7.0	7.0	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

290_Low_TCZ_100	18.4	18.4	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
290_Low_TCZ_5	18.4	18.4	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
290_Low_ECZ_100	14.3	14.3	0.56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
297_Moderate_TCZ_100	52.7	52.7	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8

297_Moderate_ECZ_100	32.0	32.0	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
297_Moderate_HTZ_100	3.1	3.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
297_Low_TCZ_100	11.5	11.5	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
299_Low_TCZ_100	40.8	40.8	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
299_Low_ECZ_100	33.2	33.2	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
301_High_TCZ_100	66.2	66.2	0.37	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9

301_Low_TCZ_100	24.3	24.3	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**574**
Keyacris scurra / Key's Matchstick Grasshopper (Fauna)									
278_High_TCZ_100	68.2	68.2	0.68	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	23
278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	26
278_High_HTZ_100	26.9	26.9	0.47	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	6
278_Moderate_TCZ_100	25.6	25.6	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	15
278_Moderate_TCZ_5	25.6	25.6	0.18	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2

278_Moderate_ECZ_100	20.3	20.3	2.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	22
278_Moderate_HTZ_100	16.3	16.3	0.94	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	8
278_Verylow_TCZ_100	6.2	6.2	6.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	21
278_Verylow_ECZ_100	5.3	5.3	0.22	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
278_Verylow_HTZ_100	4.7	4.7	0.12	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**125**
Lophoictinia isura / Square-tailed Kite (Fauna)									
278_High_TCZ_100	68.2	68.2	0.68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17

278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
278_High_HTZ_100	26.9	26.9	0.47	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
278_Moderate_TCZ_100	25.6	25.6	0.98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
278_Moderate_TCZ_5	25.6	25.6	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
278_Moderate_ECZ_100	20.3	20.3	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
278_Moderate_HTZ_100	16.3	16.3	0.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

280_High_TCZ_100	67.1	67.1	8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	202
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	15
280_High_ECZ_100	46.4	46.4	4.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	73
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
280_High_HTZ_100	13.5	13.5	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

280_Moderate_TCZ_100	45.1	45.1	4.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	82
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
280_Moderate_ECZ_100	32.8	32.8	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	13
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
280_Moderate_HTZ_100	12.3	12.3	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

280_Low_TCZ_100	7.4	7.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Low_ECZ_100	3.7	3.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19

290_High_ECZ_100	47.8	47.8	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
290_High_HTZ_100	7.0	7.0	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
290_Low_TCZ_5	18.4	18.4	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
290_Low_ECZ_100	14.3	14.3	0.56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**547**
Ninox connivens / Barking Owl (Fauna)									
278_High_TCZ_100	68.2	68.2	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	5
278_High_ECZ_100	49.5	49.5	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
278_High_HTZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
278_Moderate_TCZ_100	25.6	25.6	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
278_Moderate_ECZ_100	20.3	20.3	0.72	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7

278_Moderate_HTZ_100	16.3	16.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
280_High_TCZ_100	67.1	67.1	2.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	85
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	20
280_High_ECZ_100	46.4	46.4	1.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
280_High_HTZ_100	13.5	13.5	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

280_Moderate_TCZ_100	45.1	45.1	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	17
280_Moderate_ECZ_100	32.8	32.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
280_Moderate_HTZ_100	12.3	12.3	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	24

290_High_ECZ_100	47.8	47.8	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**239**
Ninox strenua / Powerful Owl (Fauna)									
290_High_TCZ_100	76.5	76.5	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	24
290_High_ECZ_100	47.8	47.8	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6

290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**36**
Persoonia marginata / Clandulla Geebung (Flora)									
287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	10
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	5
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

287_Low_TCZ_100	26.0	26.0	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
287_Verylow_TCZ_100	12.3	12.3	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
287_Verylow_ECZ_100	12.3	12.3	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**20**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
278_High_TCZ_100	68.2	68.2	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	5
278_High_ECZ_100	49.5	49.5	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
278_High_HTZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

278_Moderate_TCZ_100	25.6	25.6	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
278_Moderate_ECZ_100	20.3	20.3	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	11
278_Moderate_HTZ_100	16.3	16.3	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
280_High_TCZ_100	67.1	67.1	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	95
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	20
280_High_ECZ_100	46.4	46.4	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	40
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3

280_High_HTZ_100	13.5	13.5	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	5
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	17
280_Moderate_ECZ_100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
280_Moderate_ECZ_25-100	32.8	32.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_Moderate_HTZ_100	12.3	12.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	24
290_High_ECZ_100	47.8	47.8	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**262**

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area (Fauna)									
278_High_TCZ_100	68.2	68.2	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	5
278_High_ECZ_100	49.5	49.5	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
278_High_HTZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
278_Moderate_TCZ_100	25.6	25.6	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	4
278_Moderate_ECZ_100	20.3	20.3	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	11
278_Moderate_HTZ_100	16.3	16.3	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	2
280_High_TCZ_100	67.1	67.1	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	95

280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	20
280_High_ECZ_100	46.4	46.4	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	40
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	3
280_High_HTZ_100	13.5	13.5	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	5
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	10
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	17

280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	7
280_Moderate_HTZ_100	12.3	12.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	24
290_High_ECZ_100	47.8	47.8	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	6
290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	0.49	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	5

290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
								Subtotal	**262**
Petroica rodinogaster / Pink Robin (Fauna)									
299_Verylow_TCZ_100	5.2	5.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
299_Verylow_ECZ_100	0.0	0.0	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
								Subtotal	**1**
Phascolarctos cinereus / Koala (Fauna)									
278_High_TCZ_100	68.2	68.2	0.68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	23

278_High_ECZ_100	49.5	49.5	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
278_High_HTZ_100	26.9	26.9	0.47	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
278_Moderate_TCZ_100	25.6	25.6	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	15
278_Moderate_TCZ_5	25.6	25.6	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
278_Moderate_ECZ_100	20.3	20.3	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
278_Moderate_HTZ_100	16.3	16.3	0.94	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8

280_High_TCZ_100	67.1	67.1	8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	270
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	20
280_High_ECZ_100	46.4	46.4	4.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	97
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
280_High_HTZ_100	13.5	13.5	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

280_Moderate_TCZ_100	45.1	45.1	4.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	110
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	17
280_Moderate_ECZ_100	32.8	32.8	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	23
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
280_Moderate_HTZ_100	12.3	12.3	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

280_Low_TCZ_100	7.4	7.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
280_Low_ECZ_100	3.7	3.7	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
290_High_TCZ_100	76.5	76.5	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	25

290_High_ECZ_100	47.8	47.8	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
290_High_HTZ_100	7.0	7.0	0.18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
290_Low_TCZ_100	18.4	18.4	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
290_Low_TCZ_5	18.4	18.4	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
290_Low_ECZ_100	14.3	14.3	0.56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
297_Moderate_TCZ_100	52.7	52.7	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
297_Moderate_ECZ_100	32.0	32.0	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
297_Moderate_HTZ_100	3.1	3.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
297_Low_TCZ_100	11.5	11.5	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
299_Low_TCZ_100	40.8	40.8	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5

299_Low_ECZ_100	33.2	33.2	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
301_High_TCZ_100	66.2	66.2	0.37	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
301_Low_TCZ_100	24.3	24.3	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**774**
Polytelis swainsonii / Superb Parrot (Fauna)									
278_High_TCZ_100	68.2	68.2	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
278_High_ECZ_100	49.5	49.5	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
278_High_HTZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

278_Moderate_TCZ_100	25.6	25.6	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
278_Moderate_ECZ_100	20.3	20.3	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	11
278_Moderate_HTZ_100	16.3	16.3	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
280_High_TCZ_100	67.1	67.1	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	95
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	20
280_High_ECZ_100	46.4	46.4	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	40
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3

280_High_HTZ_100	13.5	13.5	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	5
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Moderate_TCZ_100	45.1	45.1	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	10
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	17
280_Moderate_ECZ_100	32.8	32.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7
280_Moderate_HTZ_100	12.3	12.3	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**225**
Pultenaea humilis / Dwarf Bush-pea (Flora)									
287_Moderate_TCZ_100	42.1	42.1	0.49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
287_Moderate_ECZ_100	33.9	33.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
287_Moderate_HTZ_100	24.4	24.4	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

290_High_ECZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
290_High_HTZ_100	7.0	7.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**24**
Senecio garlandii / Woolly Ragwort (Flora)									
287_Moderate_TCZ_100	42.1	42.1	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
287_Moderate_ECZ_100	33.9	33.9	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
287_Low_TCZ_100	26.0	26.0	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

290_Low_TCZ_100	18.4	18.4	0.63	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	4
290_Low_ECZ_100	14.3	14.3	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
290_Verylow_TCZ_100	18.0	18.0	0.43	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
290_Verylow_ECZ_100	17.0	17.0	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
								Subtotal	**13**
Swainsona sericea / Silky Swainson-pea (Flora)									
280_High_TCZ_100	67.1	67.1	6.8	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	230
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	20

280_High_ECZ_100	46.4	46.4	3.5	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	82
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
280_High_HTZ_100	13.5	13.5	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	8
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	5.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	125
280_Moderate_TCZ_25-100	45.1	45.1	0.63	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	14
280_Moderate_ECZ_100	32.8	32.8	1.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	21

280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	7
280_Moderate_HTZ_100	12.3	12.3	0.64	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	4
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Low_TCZ_100	7.4	7.4	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Low_ECZ_100	3.7	3.7	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Verylow_TCZ_100	4.2	4.2	17.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	36
280_Verylow_TCZ_5	4.2	4.2	0.24	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

280_Verylow_ECZ_100	1.9	1.9	0.89	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Verylow_ECZ_5	1.9	1.9	0.28	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Verylow_HTZ_100	0.0	0.0	0.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	0
280_Verylow_HTZ_5	0.0	0.0	0.14	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	0
290_High_TCZ_100	76.5	76.5	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
290_High_ECZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	6
290_High_HTZ_100	7.0	7.0	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

290_Low_TCZ_100	18.4	18.4	1.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	11
290_Low_TCZ_5	18.4	18.4	0.15	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
290_Low_ECZ_100	14.3	14.3	0.58	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	4
290_Low_HTZ_100	3.3	3.3	0.15	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
290_Verylow_TCZ_100	18.0	18.0	1.9	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	17
290_Verylow_ECZ_100	17.0	17.0	0.23	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
290_Verylow_HTZ_100	16.0	16.0	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
								Subtotal	**602**

Synemon plana / Golden Sun Moth (Fauna)									
278_Moderate_TCZ_100	25.6	25.6	0.06	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
278_Verylow_TCZ_100	6.2	6.2	0.29	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
280_Moderate_TCZ_100	45.1	45.1	0.06	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**3**
Tyto novaehollandiae / Masked Owl (Fauna)									
280_High_TCZ_100	67.1	67.1	2.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	85
280_High_TCZ_25-100	67.1	67.1	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	20

280_High_ECZ_100	46.4	46.4	1.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
280_High_ECZ_25-100	46.4	46.4	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
280_High_HTZ_100	13.5	13.5	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
280_High_HTZ_25-100	13.5	13.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	45.1	45.1	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
280_Moderate_TCZ_25-100	45.1	45.1	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	17
280_Moderate_ECZ_100	32.8	32.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

280_Moderate_ECZ_25-100	32.8	32.8	0.43	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
280_Moderate_HTZ_100	12.3	12.3	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_Moderate_HTZ_25-100	12.3	12.3	0.16	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_High_TCZ_100	76.5	76.5	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	24
290_High_ECZ_100	47.8	47.8	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
290_High_HTZ_100	7.0	7.0	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
290_Low_TCZ_100	18.4	18.4	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4

290_Low_ECZ_100	14.3	14.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
294_Moderate_ECZ_100	25.0	25.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**222**
Zieria obcordata / Granite Zieria (Flora)									
280_High_TCZ_100	67.1	67.1	6.2	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	312
280_High_TCZ_25-100	67.1	67.1	0.61	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	31
280_High_ECZ_100	46.4	46.4	3.3	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	115
280_High_ECZ_25-100	46.4	46.4	0.11	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	4

280_High_HTZ_100	13.5	13.5	1	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	10
280_High_HTZ_25-100	13.5	13.5	0.03	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
280_Moderate_TCZ_100	45.1	45.1	4.2	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	143
280_Moderate_TCZ_25-100	45.1	45.1	0.63	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	21
280_Moderate_ECZ_100	32.8	32.8	1.2	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	31
280_Moderate_ECZ_25-100	32.8	32.8	0.43	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	11
280_Moderate_HTZ_100	12.3	12.3	0.57	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	5

280_Moderate_HTZ_25-100	12.3	12.3	0.16	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
280_Verylow_TCZ_100	4.2	4.2	14.6	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	46
280_Verylow_ECZ_100	1.9	1.9	0.85	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
280_Verylow_HTZ_100	0.0	0.0	0.15	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	0
287_Moderate_TCZ_100	42.1	42.1	0.49	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	15
287_Moderate_ECZ_100	33.9	33.9	0.32	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	8
287_Moderate_HTZ_100	24.4	24.4	0.02	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1

287_Low_TCZ_100	26.0	26.0	0.06	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
287_Verylow_TCZ_100	12.3	12.3	0.25	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	2
287_Verylow_ECZ_100	12.3	12.3	0.02	Population size	Ability to colonise improved habitat	Endangered	Endangered	True	1
								Subtotal	**760**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/23/00038907	6699 Humelink Assessment - Inland Slopes 2	22/06/2023
Assessor Name	**Report Created**	**BAM Data version ***
Simon Tweed	18/08/2023	61
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17040	Major Projects	Finalised
Assessment Revision		**Date Finalised**
0		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
Black Falcon	Falco subniger	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Diamond Firetail	Stagonopleura guttata	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion

Diamond Firetail	Stagonopleura guttata	297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Dusky Woodswallow	Artamus cyanopterus cyanopterus	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Eastern False Pipistrelle	Falsistrellus tasmaniensis	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion

Eastern False Pipistrelle	Falsistrellus tasmaniensis	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Flame Robin	Petroica phoenicea	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Gang-gang Cockatoo	Callocephalon fimbriatum	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Gang-gang Cockatoo	Callocephalon fimbriatum	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Glossy Black-Cockatoo	Calyptorhynchus lathami	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
Grey-headed Flying-fox	Pteropus poliocephalus	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Little Eagle	Hieraaetus morphnoides	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion

Little Eagle	Hieraaetus morphnoides	294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Little Lorikeet	Glossopsitta pusilla	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Little Pied Bat	Chalinolobus picatus	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
Masked Owl	Tyto novaehollandiae	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion

New Holland Mouse	Pseudomys novaehollandiae	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
Painted Honeyeater	Grantiella picta	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Powerful Owl	Ninox strenua	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
Regent Honeyeater	Anthochaera phrygia	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Rosenberg's Goanna	Varanus rosenbergi	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Rosenberg's Goanna	Varanus rosenbergi	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Scarlet Robin	Petroica boodang	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Speckled Warbler	Chthonicola sagittata	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Speckled Warbler	Chthonicola sagittata	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
Spotted Harrier	Circus assimilis	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Square-tailed Kite	Lophoictinia isura	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Superb Parrot	Polytelis swainsonii	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
Swift Parrot	Lathamus discolor	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion

Swift Parrot	Lathamus discolor	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Turquoise Parrot	Neophema pulchella	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
Varied Sittella	Daphoenositta chrysoptera	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion

Varied Sittella	Daphoenositta chrysoptera	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
White-bellied Sea-Eagle	Haliaeetus leucogaster	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
White-throated Needletail	Hirundapus caudacutus	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion

White-throated Needletail	Hirundapus caudacutus	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion
		294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion
		297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion
		299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt
Yellow-bellied Glider	Petaurus australis	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038907

Assessment name
6699 Humelink Assessment - Inland Slopes 2

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

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61

Assessor Number
BAAS17040

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Major Projects

BAM Case Status
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Assessment Revision
0

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	278_High_TCZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	High_TCZ_100	0.68	1	

2	278_High_ECZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	High_ECZ_100	1.05	1	
3	278_High_HTZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	High_HTZ_100	0.47	1	
4	278_Moderate_TCZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Moderate_TCZ_100	1.16	1	
5	278_Moderate_TCZ_5	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Moderate_TCZ_5	0.18	1	
6	278_Moderate_ECZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Moderate_ECZ_100	2.12	2	
7	278_Moderate_HTZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.94	1	

8	278_Verylow_TCZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Verylow_TCZ_100	6.65	3	
9	278_Verylow_ECZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Verylow_ECZ_100	0.22	1	
10	278_Verylow_HTZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Verylow_HTZ_100	0.12	1	
11	280_High_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_TCZ_100	8.05	3	
12	280_High_TCZ_25-100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_TCZ_25-100	0.61	1	
13	280_High_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_ECZ_100	4.18	2	

14	280_High_ECZ_25-100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_ECZ_25-100	0.11	1	
15	280_High_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_HTZ_100	1.58	1	
16	280_High_HTZ_25-100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_HTZ_25-100	0.03	1	
17	280_Moderate_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	5.55	3	
18	280_Moderate_TCZ_25-100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_TCZ_25-100	0.74	1	
19	280_Moderate_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	1.41	1	

20	280_Moderate_ECZ_25-100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_ECZ_25-100	0.43	1	
21	280_Moderate_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.65	1	
22	280_Moderate_HTZ_25-100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_HTZ_25-100	0.16	1	
23	280_Low_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_TCZ_100	0.02	1	
24	280_Low_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.02	1	
25	280_Verylow_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_TCZ_100	17.65	3	

26	280_Verylow_TCZ_5	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_TCZ_5	0.24	1	
27	280_Verylow_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_ECZ_100	0.89	1	
28	280_Verylow_ECZ_5	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_ECZ_5	0.28	1	
29	280_Verylow_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_HTZ_100	0.2	1	
30	280_Verylow_HTZ_5	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_HTZ_5	0.14	1	
31	287_Moderate_TCZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.49	1	

32	287_Moderate_ECZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.32	1	
33	287_Moderate_HTZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.02	1	
34	287_Low_TCZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Low_TCZ_100	0.06	1	
35	287_Verylow_TCZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Verylow_TCZ_100	0.25	1	
36	287_Verylow_ECZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Verylow_ECZ_100	0.02	1	
37	290_High_TCZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	High_TCZ_100	0.65	1	

38	290_High_ECZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	High_ECZ_100	0.48	1	
39	290_High_HTZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	High_HTZ_100	0.18	1	
40	290_Low_TCZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Low_TCZ_100	1.18	1	
41	290_Low_TCZ_5	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Low_TCZ_5	0.15	1	
42	290_Low_ECZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.58	1	

43	290_Low_HTZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Low_HTZ_100	0.15	1	
44	290_Verylow_TCZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Verylow_TCZ_100	1.86	1	
45	290_Verylow_ECZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Verylow_ECZ_100	0.23	1	
46	290_Verylow_HTZ_100	290-Red Stringybark - Red Box - Long-leaved Box - Inland Scribbly Gum tussock grass - shrub low open forest on hills in the southern part of the NSW South Western Slopes Bioregion	Verylow_HTZ_100	0.01	1	
47	294_Moderate_ECZ_100	294-Nortons Box - Red Box - White Box tussock grass open forest of the southern section of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.04	1	

48	297_Moderate_TCZ_100	297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.42	1	
49	297_Moderate_ECZ_100	297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.16	1	
50	297_Moderate_HTZ_100	297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.02	1	
51	297_Low_TCZ_100	297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Low_TCZ_100	0.46	1	
52	297_Low_ECZ_100	297-Broad-leaved Peppermint - Nortons Box - Red Stringybark tall open forest on red clay on hills in the southern part of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.02	1	
53	299_Low_TCZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_TCZ_100	0.24	1	

54	299_Low_ECZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_ECZ_100	0.09	1	
55	299_Verylow_TCZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_TCZ_100	0.24	1	
56	299_Verylow_ECZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_ECZ_100	0.64	1	
57	299_Verylow_HTZ_100	299-Riparian Ribbon Gum - Robertsons Peppermint - Apple Box riverine very tall open forest of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_HTZ_100	0.21	1	
58	301_High_TCZ_100	301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	High_TCZ_100	0.37	1	

59	301_Moderate_TCZ_100	301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	Moderate_TCZ_100	0.42	1	
60	301_Low_TCZ_100	301-Drooping Sheoke - Ricinocarpus bowmannii - grasstree tall open shrubland of the Coolac - Tumut Serpentinite Belt	Low_TCZ_100	0.63	1	

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038942

Proposal Name
6699 Humelink Assessment - Inland Slopes - 3

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Name(s)
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
0

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Species
Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Not a TEC	6.7	34	24	58.00
314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Not a TEC	23.5	393	0	393.00
316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Not a TEC	12.9	254	38	292.00
319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	Not a TEC	1.3	16	6	22.00
343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Not a TEC	5.7	50	1	51.00

352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	11	0	11.00
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Not a TEC	1.4	0	14	14.00
1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Not a TEC	0.1	3	0	3.00

306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_High_TCZ_100	Yes	15	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Low_TCZ_100	Yes	16	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Low_ECZ_100	Yes	2	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Low_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_TCZ_100	No	21	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_TCZ_5	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_HTZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_High_TCZ_100	Yes (including artificial)	15	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Low_TCZ_100	Yes (including artificial)	16	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Low_ECZ_100	Yes (including artificial)	2	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Low_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Verylow_TCZ_100	No	21	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Verylow_TCZ_5	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Verylow_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 4 or higher threat status	306_Verylow_HTZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Veryhigh_TCZ_100	Yes	193	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Veryhigh_ECZ_100	Yes	30	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Veryhigh_HTZ_100	Yes	4	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Moderate_TCZ_100	Yes	98	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Moderate_ECZ_100	Yes	66	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Moderate_HTZ_100	Yes	2	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Low_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Low_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Low_HTZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Verylow_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Verylow_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Verylow_HTZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Veryhigh_TCZ_100	Yes (including artificial)	193	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Veryhigh_ECZ_100	Yes (including artificial)	30	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Veryhigh_HTZ_100	Yes (including artificial)	4	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Moderate_TCZ_100	Yes (including artificial)	98	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Moderate_ECZ_100	Yes (including artificial)	66	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Moderate_HTZ_100	Yes (including artificial)	2	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Low_TCZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Low_ECZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Low_HTZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Verylow_TCZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Verylow_ECZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	314_Verylow_HTZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Veryhigh_TCZ_100	Yes	129	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Veryhigh_ECZ_100	Yes	98	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Veryhigh_HTZ_100	Yes	4	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_High_TCZ_100	No	23	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_High_ECZ_100	No	3	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_High_HTZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Moderate_TCZ_100	No	9	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Moderate_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Moderate_HTZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Low_TCZ_100	Yes	21	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Low_ECZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Low_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 3 or higher threat status	316_Veryhigh_TCZ_100	Yes (including artificial)	129	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Grassy Woodlands	Tier 3 or higher threat status	316_Veryhigh_ECZ_100	Yes (including artificial)	98	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_Veryhigh_HTZ_100	Yes (including artificial)	4	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_High_TCZ_100	No	23	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_High_ECZ_100	No	3	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_High_HTZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Grassy Woodlands	Tier 3 or higher threat status	316_Moderate_TCZ_100	No	9	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_Moderate_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_Moderate_HTZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_Low_TCZ_100	Yes (including artificial)	21	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 3 or higher threat status	316_Low_ECZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Grassy Woodlands	Tier 3 or higher threat status	316_Low_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_High_TCZ_100	Yes	14	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_High_ECZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_High_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_Low_TCZ_100	No	5	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_Low_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Semi-arid Woodlands (Shrubby sub-formation)	Tier 3 or higher threat status	319_High_TCZ_100	Yes (including artificial)	14	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Semi-arid Woodlands (Shrubby sub-formation)	Tier 3 or higher threat status	319_High_ECZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Semi-arid Woodlands (Shrubby sub-formation)	Tier 3 or higher threat status	319_High_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Semi-arid Woodlands (Shrubby sub-formation)	Tier 3 or higher threat status	319_Low_TCZ_100	No	5	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Semi-arid Woodlands (Shrubby sub-formation)	Tier 3 or higher threat status	319_Low_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Moderate_TCZ_100	Yes	37	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Moderate_ECZ_100	Yes	12	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Moderate_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Low_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Verylow_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Verylow_ECZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Verylow_HTZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Moderate_TCZ_100	Yes (including artificial)	37	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Moderate_ECZ_100	Yes (including artificial)	12	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Low_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Verylow_TCZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Verylow_ECZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 2 or higher threat status	343_Verylow_HTZ_100	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599,	-	352_Low_TCZ_100	Yes	8	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	352_Low_TCZ_24	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	352_Low_ECZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	352_Low_HTZ_100	Yes	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland,	-	352_Verylow_TCZ_100	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_TCZ_100	No	2	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_ECZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_HTZ_100	No	1	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Verylow_TCZ_100	No	10	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 2 or higher threat status	731_Low_TCZ_100	No	2	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Grassy Woodlands	Tier 2 or higher threat status	731_Low_ECZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	731_Low_HTZ_100	No	1	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 2 or higher threat status	731_Verylow_TCZ_100	No	10	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Subalpine Woodlands This includes PCT's: 1191	Subalpine Woodlands >=90%	1191_Moderate_TCZ_100	Yes	3	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Grassy Woodlands	Tier 1	1191_Moderate_TCZ_100	Yes (including artificial)	3	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Ammobium craspedioides / Yass Daisy	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Verylow_TCZ_100, 352_Low_TCZ_100, 352_Verylow_TCZ_100**	48.0	96.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**319_High_TCZ_100, 319_High_ECZ_100, 319_High_HTZ_100, 319_Low_TCZ_100, 319_Low_ECZ_100, 731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100, 731_Verylow_TCZ_100, 1191_Moderate_TCZ_100**	2.9	42.00
Burhinus grallarius / Bush Stone-curlew	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Low_HTZ_100**	2.7	50.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**314_Veryhigh_TCZ_100, 314_Veryhigh_ECZ_100, 314_Veryhigh_HTZ_100, 314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	6.7	164.00
Calyptorhynchus lathami / Glossy Black-Cockatoo	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Low_ECZ_100**	1.4	28.00
Cercartetus nanus / Eastern Pygmy-possum	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100**	7.7	127.00
Diuris tricolor / Pine Donkey Orchid	**731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100, 731_Verylow_TCZ_100**	1.4	12.00
Eucalyptus aggregata / Black Gum	**1191_Moderate_TCZ_100**	1.0	2.00

Haliaeetus leucogaster / White-bellied Sea-Eagle	**314_Veryhigh_TCZ_100, 314_Veryhigh_HTZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100**	1.9	58.00

Hieraaetus morphnoides / Little Eagle	**306_High_TCZ_100, 306_Low_TCZ_100, 306_Low_ECZ_100, 306_Low_HTZ_100, 314_Veryhigh_TCZ_100, 314_Veryhigh_ECZ_100, 314_Veryhigh_HTZ_100, 314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 314_Low_ECZ_100, 314_Low_HTZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Low_HTZ_100, 731_Low_TCZ_100,**	33.3	626.00

	731_Low_ECZ_100, 731_Low_HTZ_100		
Leucochrysum albicans subsp. tricolor / Hoary Sunray	**352_Low_TCZ_100, 352_Low_TCZ_24, 352_Low_ECZ_100, 352_Low_HTZ_100, 352_Verylow_TCZ_100, 731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100, 731_Verylow_TCZ_100, 1191_Moderate_TCZ_100**	540.0	1080.00
Lophoictinia isura / Square-tailed Kite	**352_Low_TCZ_100, 352_Low_ECZ_100, 352_Low_HTZ_100, 731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100**	0.9	9.00
Ninox connivens / Barking Owl	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	3.1	61.00
Ninox strenua / Powerful Owl	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100**	1.0	19.00

Petauroides volans / Southern Greater Glider	**316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100**	3.1	89.00
Petaurus norfolcensis / Squirrel Glider	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	7.0	163.00

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	7.0	163.00

Phascolarctos cinereus / Koala	**306_High_TCZ_100,** **306_Low_TCZ_100,** **306_Low_ECZ_100,** **306_Low_HTZ_100,** **314_Veryhigh_TCZ_100,** **314_Veryhigh_ECZ_100,** **314_Veryhigh_HTZ_100,** **314_Moderate_TCZ_100,** **314_Moderate_ECZ_100,** **314_Moderate_HTZ_100,** **314_Low_TCZ_100,** **314_Low_ECZ_100,** **314_Low_HTZ_100,** **316_Veryhigh_TCZ_100,** **316_Veryhigh_ECZ_100,** **316_Veryhigh_HTZ_100,** **316_High_TCZ_100,** **316_High_ECZ_100,** **316_High_HTZ_100,** **316_Moderate_TCZ_100,** **316_Moderate_ECZ_100,** **316_Moderate_HTZ_100,** **316_Low_TCZ_100,** **343_Moderate_TCZ_100,** **343_Moderate_ECZ_100,** **343_Moderate_HTZ_100,** **343_Low_ECZ_100,** **352_Low_TCZ_100,** **352_Low_TCZ_24,** **352_Low_ECZ_100,** **352_Low_HTZ_100,**	34.1	839.00

	731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100		
Polytelis swainsonii / Superb Parrot	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	2.3	49.00
Prasophyllum petilum / Tarengo Leek Orchid	**1191_Moderate_TCZ_100**	0.1	3.00
Pultenaea humilis / Dwarf Bush-pea	**306_High_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100**	2.1	52.00
Swainsona sericea / Silky Swainson-pea	**1191_Moderate_TCZ_100**	0.1	3.00

Credit Retirement Options

Like-for-like options

Ammobium craspedioides/ Yass Daisy

Spp	IBRA region
Ammobium craspedioides/Yass Daisy	Any in NSW

Variation options

Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Aprasia parapulchella/ Pink-tailed Legless Lizard	Spp	IBRA region	
	Aprasia parapulchella/Pink-tailed Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Burhinus grallarius/ Bush Stone-curlew	Spp		IBRA region
	Burhinus grallarius/Bush Stone-curlew		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp		IBRA region
	Callocephalon fimbriatum/Gang-gang Cockatoo		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Calyptorhynchus lathami/ Glossy Black-Cockatoo	Spp	IBRA region	
	Calyptorhynchus lathami/Glossy Black-Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Cercartetus nanus/ Eastern Pygmy-possum	Spp		IBRA region
	Cercartetus nanus/Eastern Pygmy-possum		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Diuris tricolor/ Pine Donkey Orchid	Spp		IBRA region
	Diuris tricolor/Pine Donkey Orchid		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Eucalyptus aggregata/ Black Gum	Spp	IBRA region	
	Eucalyptus aggregata/Black Gum	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Haliaeetus leucogaster/ White-bellied Sea-Eagle	Spp		IBRA region
	Haliaeetus leucogaster/White-bellied Sea-Eagle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Hieraaetus morphnoides/ Little Eagle	Spp		IBRA region
	Hieraaetus morphnoides/Little Eagle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Leucochrysum albicans subsp. tricolor/ Hoary Sunray	Spp	IBRA region	
	Leucochrysum albicans subsp. tricolor/Hoary Sunray	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Lophoictinia isura/ Square-tailed Kite	Spp		IBRA region
	Lophoictinia isura/Square-tailed Kite		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox connivens/ Barking Owl	Spp		IBRA region
	Ninox connivens/Barking Owl		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox strenua/ Powerful Owl	Spp	IBRA region	
	Ninox strenua/Powerful Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Petauroides volans/ Southern Greater Glider	Spp		IBRA region
	Petauroides volans/Southern Greater Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp		IBRA region
	Petaurus norfolcensis/Squirrel Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Petaurus norfolcensis - endangered population/ Squirrel Glider in the Wagga Wagga Local Government Area	Spp	IBRA region	
	Petaurus norfolcensis - endangered population/Squirrel Glider in the Wagga Wagga Local Government Area	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Endangered Population	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp	IBRA region	
	Phascolarctos cinereus/Koala	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Polytelis swainsonii/ Superb Parrot	Spp		IBRA region
	Polytelis swainsonii/Superb Parrot		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Prasophyllum petilum/ Tarengo Leek Orchid	Spp		IBRA region
	Prasophyllum petilum/Tarengo Leek Orchid		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pultenaea humilis/ Dwarf Bush-pea	Spp	IBRA region	
	Pultenaea humilis/Dwarf Bush-pea	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Swainsona sericea/ Silky Swainson-pea	Spp		IBRA region
	Swainsona sericea/Silky Swainson-pea		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038942

Proposal Name
6699 Humelink Assessment - Inland Slopes - 3

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
0

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Species		

Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Not a TEC	6.7	34	24	58
314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Not a TEC	23.5	393	0	393

316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Not a TEC	12.9	254	38	292
319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	Not a TEC	1.3	16	6	22
343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Not a TEC	5.7	50	1	51
352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.2	11	0	11
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Not a TEC	1.4	0	14	14
1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Not a TEC	0.1	3	0	3

306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_High_TCZ_100	Yes	15	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Low_TCZ_100	Yes	16	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Low_ECZ_100	Yes	2	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Low_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_TCZ_100	No	21	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_TCZ_5	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 288, 289, 290, 293, 294, 297, 298, 302, 304, 305, 306, 310, 311, 313, 314, 315, 338, 339, 340, 342, 353, 1088, 1094, 1095, 3510, 3533, 3534, 3535, 3536, 3537, 3538, 3540, 3541, 3542, 3543, 4152	Upper Riverina Dry Sclerophyll Forests <50%	306_Verylow_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Veryhigh_TCZ_100	Yes	193	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Veryhigh_ECZ_100	Yes	30	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Veryhigh_HTZ_100	Yes	4	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Moderate_TCZ_100	Yes	98	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Moderate_ECZ_100	Yes	66	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Moderate_HTZ_100	Yes	2	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Low_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Low_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Low_HTZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Verylow_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Verylow_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095, 3533, 3534, 3535, 3536, 3537, 3540, 3541, 3542, 4152	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	314_Verylow_HTZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Veryhigh_TCZ_100	Yes	129	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Veryhigh_ECZ_100	Yes	98	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Veryhigh_HTZ_100	Yes	4	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_High_TCZ_100	No	23	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_High_ECZ_100	No	3	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_High_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Moderate_TCZ_100	No	9	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Moderate_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Moderate_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Low_TCZ_100	Yes	21	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Low_ECZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Grassy Woodlands This includes PCT's: 201, 202, 266, 267, 268, 272, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 301, 316, 326, 337, 347, 383, 421, 426, 433, 434, 437, 441, 444, 461, 483, 509, 516, 544, 589, 590, 593, 599, 847, 955, 1303, 1304, 1315, 1329, 1383, 1609, 1693, 1695, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3401, 3403, 3404, 3405, 3406, 3485, 4147	Western Slopes Grassy Woodlands >=50% and <70%	316_Low_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_High_TCZ_100	Yes	14	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_High_ECZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_High_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_Low_TCZ_100	No	5	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Inland Rocky Hill Woodlands This includes PCT's: 177, 178, 318, 319	Inland Rocky Hill Woodlands >=50% and <70%	319_Low_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Moderate_TCZ_100	Yes	37	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Moderate_ECZ_100	Yes	12	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Moderate_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Low_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Verylow_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Verylow_ECZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 333, 341, 343, 358, 472, 1279, 1668	Western Slopes Dry Sclerophyll Forests >=70% and <90%	343_Verylow_HTZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	352_Low_TCZ_100	Yes	8	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	352_Low_TCZ_24	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	352_Low_ECZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi.

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	352_Low_HTZ_100	Yes	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	352_Verylow_TCZ_100	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 847, 851, 921, 1099, 1303, 1304, 1307, 1324, 1329, 1330, 1332, 1383, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_TCZ_100	No	2	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_ECZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Low_HTZ_100	No	1	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 703, 705, 731, 1330, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_Verylow_TCZ_100	No	10	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Subalpine Woodlands This includes PCT's: 1191	Subalpine Woodlands >=90%	1191_Moderate_TCZ_100	Yes	3	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Ammobium craspedioides / Yass Daisy	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Verylow_TCZ_100, 352_Low_TCZ_100, 352_Verylow_TCZ_100**	48.0	96.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**319_High_TCZ_100, 319_High_ECZ_100, 319_High_HTZ_100, 319_Low_TCZ_100, 319_Low_ECZ_100, 731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100, 731_Verylow_TCZ_100, 1191_Moderate_TCZ_100**	2.9	42.00
Burhinus grallarius / Bush Stone-curlew	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Low_HTZ_100**	2.7	50.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**314_Veryhigh_TCZ_100, 314_Veryhigh_ECZ_100, 314_Veryhigh_HTZ_100, 314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	6.7	164.00
Calyptorhynchus lathami / Glossy Black-Cockatoo	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Low_ECZ_100**	1.4	28.00
Cercartetus nanus / Eastern Pygmy-possum	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100**	7.7	127.00

Diuris tricolor / Pine Donkey Orchid	**731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100, 731_Verylow_TCZ_100**	1.4	12.00
Eucalyptus aggregata / Black Gum	**1191_Moderate_TCZ_100**	1.0	2.00
Haliaeetus leucogaster / White-bellied Sea-Eagle	**314_Veryhigh_TCZ_100, 314_Veryhigh_HTZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100**	1.9	58.00

Hieraaetus morphnoides / Little Eagle	**306_High_TCZ_100, 306_Low_TCZ_100, 306_Low_ECZ_100, 306_Low_HTZ_100, 314_Veryhigh_TCZ_100, 314_Veryhigh_ECZ_100, 314_Veryhigh_HTZ_100, 314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 314_Low_ECZ_100, 314_Low_HTZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100,**	33.3	626.00

	352_Low_TCZ_100, **352_Low_ECZ_100,** **352_Low_HTZ_100,** **731_Low_TCZ_100,** **731_Low_ECZ_100,** **731_Low_HTZ_100**		
Leucochrysum albicans subsp. tricolor / Hoary Sunray	**352_Low_TCZ_100,** **352_Low_TCZ_24,** **352_Low_ECZ_100,** **352_Low_HTZ_100,** **352_Verylow_TCZ_100,** **731_Low_TCZ_100,** **731_Low_ECZ_100,** **731_Low_HTZ_100,** **731_Verylow_TCZ_100,** **1191_Moderate_TCZ_100**	540.0	1080.00
Lophoictinia isura / Square-tailed Kite	**352_Low_TCZ_100,** **352_Low_ECZ_100,** **352_Low_HTZ_100,** **731_Low_TCZ_100,** **731_Low_ECZ_100,** **731_Low_HTZ_100**	0.9	9.00

Ninox connivens / Barking Owl	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	3.1	61.00
Ninox strenua / Powerful Owl	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100**	1.0	19.00
Petauroides volans / Southern Greater Glider	**316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100**	3.1	89.00

Petaurus norfolcensis / Squirrel Glider	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	7.0	163.00

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	**314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	7.0	163.00

Phascolarctos cinereus / Koala	**306_High_TCZ_100, 306_Low_TCZ_100, 306_Low_ECZ_100, 306_Low_HTZ_100, 314_Veryhigh_TCZ_100, 314_Veryhigh_ECZ_100, 314_Veryhigh_HTZ_100, 314_Moderate_TCZ_100, 314_Moderate_ECZ_100, 314_Moderate_HTZ_100, 314_Low_TCZ_100, 314_Low_ECZ_100, 314_Low_HTZ_100, 316_Veryhigh_TCZ_100, 316_Veryhigh_ECZ_100, 316_Veryhigh_HTZ_100, 316_High_TCZ_100, 316_High_ECZ_100, 316_High_HTZ_100, 316_Moderate_TCZ_100, 316_Moderate_ECZ_100, 316_Moderate_HTZ_100, 316_Low_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100,**	34.1	839.00

	352_Low_TCZ_100, 352_Low_TCZ_24, 352_Low_ECZ_100, 352_Low_HTZ_100, 731_Low_TCZ_100, 731_Low_ECZ_100, 731_Low_HTZ_100		
Polytelis swainsonii / Superb Parrot	**343_Moderate_TCZ_100, 343_Moderate_ECZ_100, 343_Moderate_HTZ_100, 343_Low_ECZ_100**	2.3	49.00
Prasophyllum petilum / Tarengo Leek Orchid	**1191_Moderate_TCZ_100**	0.1	3.00
Pultenaea humilis / Dwarf Bush-pea	**306_High_TCZ_100, 343_Moderate_TCZ_100, 343_Moderate_ECZ_100**	2.1	52.00
Swainsona sericea / Silky Swainson-pea	**1191_Moderate_TCZ_100**	0.1	3.00

Credit Retirement Options

Like-for-like credit retirement options

Ammobium craspedioides / Yass Daisy	Spp	IBRA subregion
	Ammobium craspedioides / Yass Daisy	Any in NSW
Aprasia parapulchella / Pink-tailed Legless Lizard	Spp	IBRA subregion
	Aprasia parapulchella / Pink-tailed Legless Lizard	Any in NSW

Burhinus grallarius / Bush Stone-curlew	Spp	IBRA subregion
	Burhinus grallarius / Bush Stone-curlew	Any in NSW
Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calyptorhynchus lathami / Glossy Black-Cockatoo	Spp	IBRA subregion
	Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Diuris tricolor / Pine Donkey Orchid	Spp	IBRA subregion
	Diuris tricolor / Pine Donkey Orchid	Any in NSW
Eucalyptus aggregata / Black Gum	Spp	IBRA subregion
	Eucalyptus aggregata / Black Gum	Any in NSW
Haliaeetus leucogaster / White-bellied Sea-Eagle	Spp	IBRA subregion

	Haliaeetus leucogaster / White-bellied Sea-Eagle	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Leucochrysum albicans subsp. tricolor / Hoary Sunray	Spp	IBRA subregion
	Leucochrysum albicans subsp. tricolor / Hoary Sunray	Any in NSW
Lophoictinia isura / Square-tailed Kite	Spp	IBRA subregion
	Lophoictinia isura / Square-tailed Kite	Any in NSW
Ninox connivens / Barking Owl	Spp	IBRA subregion
	Ninox connivens / Barking Owl	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Petauroides volans / Southern Greater Glider	Spp	IBRA subregion
	Petauroides volans / Southern Greater Glider	Any in NSW

Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	Spp	IBRA subregion
	Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Prasophyllum petilum / Tarengo Leek Orchid	Spp	IBRA subregion
	Prasophyllum petilum / Tarengo Leek Orchid	Any in NSW
Pultenaea humilis / Dwarf Bush-pea	Spp	IBRA subregion
	Pultenaea humilis / Dwarf Bush-pea	Any in NSW

Swainsona sericea / Silky Swainson-pea	Spp	IBRA subregion
	Swainsona sericea / Silky Swainson-pea	Any in NSW

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/23/00038942	Proposal Name 6699 Humelink Assessment - Inland Slopes - 3	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 0	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Ammobium craspedioides Yass Daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Burhinus grallarius Bush Stone-curlew	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☑ Mar ☑ Apr ☐ May ☐ Jun ☑ Jul ☑ Aug ☐ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris tricolor Pine Donkey Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Eucalyptus aggregata Black Gum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans subsp. tricolor Hoary Sunray	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Southern Greater Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Petaurus norfolcensis Squirrel Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis - endangered population Squirrel Glider in the Wagga Wagga Local Government Area	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Polytelis swainsonii Superb Parrot	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum petilum Tarengo Leek Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pultenaea humilis Dwarf Bush-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Senecio garlandii Woolly Ragwort	No (expert report)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Booroolong Frog	Litoria booroolongensis	Refer to BAR
Brush-tailed Phascogale	Phascogale tapoatafa	Geographic limitations
Brush-tailed Rock-wallaby	Petrogale penicillata	Refer to BAR
Golden Sun Moth	Synemon plana	Geographic limitations
Grey-headed Flying-fox	Pteropus poliocephalus	Habitat constraints
Large Bent-winged Bat	Miniopterus orianae oceanensis	Habitat constraints
Large-eared Pied Bat	Chalinolobus dwyeri	Refer to BAR
Masked Owl	Tyto novaehollandiae	Refer to BAR
Pink Robin	Petroica rodinogaster	Refer to BAR
Regent Honeyeater	Anthochaera phrygia	Refer to BAR
Robertson's Peppermint	Eucalyptus robertsonii subsp. hemisphaerica	Refer to BAR
Southern Myotis	Myotis macropus	Refer to BAR
Swift Parrot	Lathamus discolor	Refer to BAR

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038942

Proposal Name
6699 Humelink Assessment - Inland Slopes - 3

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
0

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region												
9	314_Veryhigh_TCZ_100	Not a TEC	100	100.0	4.4	PCT Cleared - 50%	High Sensitivity to Gain			1.75		193

10	314_Veryhigh_ECZ_100	Not a TEC	100	76.4	0.9	PCT Cleared - 50%	High Sensitivity to Gain			1.75		30
11	314_Veryhigh_HTZ_100	Not a TEC	100	14.7	0.57	PCT Cleared - 50%	High Sensitivity to Gain			1.75		4
12	314_Moderate_TCZ_100	Not a TEC	43.5	43.5	5.2	PCT Cleared - 50%	High Sensitivity to Gain			1.75		98
13	314_Moderate_ECZ_100	Not a TEC	43.5	37.0	4.1	PCT Cleared - 50%	High Sensitivity to Gain			1.75		66
14	314_Moderate_HTZ_100	Not a TEC	43.5	2.3	2.1	PCT Cleared - 50%	High Sensitivity to Gain			1.75		2
15	314_Low_TCZ_100	Not a TEC	11.5	11.5	1.2	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
16	314_Low_ECZ_100	Not a TEC	11.5	6.0	0.43	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
17	314_Low_HTZ_100	Not a TEC	11.5	1.9	0.19	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
18	314_Verylow_TCZ_100	Not a TEC	3.6	3.6	4	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0

19	314_Veryl ow_ECZ_1 00	Not a TEC	3.6	1.6	0.45	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
20	314_Veryl ow_HTZ_1 00	Not a TEC	3.6	0.0	0.1	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
											Subtot al	**393**
Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion												
50	731_Low_T CZ_100	Not a TEC	17.7	17.7	0.28	PCT Cleared - 80%	High Sensitivity to Gain			2.00		2
51	731_Low_E CZ_100	Not a TEC	17.7	10.5	0.01	PCT Cleared - 80%	High Sensitivity to Gain			2.00		1
52	731_Low_ HTZ_100	Not a TEC	17.7	4.5	0.05	PCT Cleared - 80%	High Sensitivity to Gain			2.00		1
53	731_Veryl ow_TCZ_1 00	Not a TEC	18.3	18.3	1.1	PCT Cleared - 80%	High Sensitivity to Gain			2.00		10
											Subtot al	**14**
Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion												
38	343_Mode rate_TCZ_ 100	Not a TEC	44.8	44.8	1.6	PCT Cleared - 88%	High Sensitivity to Gain			2.00		37

39	343_Moderate_ECZ_100	Not a TEC	44.8	34.6	0.71	PCT Cleared - 88%	High Sensitivity to Gain			2.00		12
40	343_Moderate_HTZ_100	Not a TEC	44.8	23.6	0.03	PCT Cleared - 88%	High Sensitivity to Gain			2.00		1
41	343_Low_ECZ_100	Not a TEC	26	17.8	0.04	PCT Cleared - 88%	High Sensitivity to Gain			2.00		1
42	343_Verylow_TCZ_100	Not a TEC	11.9	11.9	3.2	PCT Cleared - 88%	High Sensitivity to Gain			2.00		0
43	343_Verylow_ECZ_100	Not a TEC	11.9	5.2	0.05	PCT Cleared - 88%	High Sensitivity to Gain			2.00		0
44	343_Verylow_HTZ_100	Not a TEC	11.9	0.0	0.01	PCT Cleared - 88%	High Sensitivity to Gain			2.00		0
											Subtotal	**51**
Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region												
21	316_Veryhigh_TCZ_100	Not a TEC	90.4	90.4	3.3	PCT Cleared - 63%	High Sensitivity to Gain			1.75		129
22	316_Veryhigh_ECZ_100	Not a TEC	90.4	61.7	3.6	PCT Cleared - 63%	High Sensitivity to Gain			1.75		98

23	316_Veryhigh_HTZ_100	Not a TEC	90.4	9.0	1	PCT Cleared - 63%	High Sensitivity to Gain			1.75		4
24	316_High_TCZ_100	Not a TEC	66.2	66.2	0.8	PCT Cleared - 63%	High Sensitivity to Gain			1.75		23
25	316_High_ECZ_100	Not a TEC	66.2	47.9	0.13	PCT Cleared - 63%	High Sensitivity to Gain			1.75		3
26	316_High_HTZ_100	Not a TEC	66.2	7.3	0.19	PCT Cleared - 63%	High Sensitivity to Gain			1.75		1
27	316_Moderate_TCZ_100	Not a TEC	21.5	21.5	0.98	PCT Cleared - 63%	High Sensitivity to Gain			1.75		9
28	316_Moderate_ECZ_100	Not a TEC	21.5	19.4	0.14	PCT Cleared - 63%	High Sensitivity to Gain			1.75		1
29	316_Moderate_HTZ_100	Not a TEC	21.5	0.0	0.05	PCT Cleared - 63%	High Sensitivity to Gain			1.75		1
30	316_Low_TCZ_100	Not a TEC	19.2	19.2	2.5	PCT Cleared - 63%	High Sensitivity to Gain			1.75		21
31	316_Low_ECZ_100	Not a TEC	19.2	17.2	0.08	PCT Cleared - 63%	High Sensitivity to Gain			1.75		1

32	316_Low_HTZ_100	Not a TEC	19.2	1.8	0.07	PCT Cleared - 63%	High Sensitivity to Gain			1.75		1
											Subtotal	**292**
Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region												
1	306_High_TCZ_100	Not a TEC	63.6	63.6	0.64	PCT Cleared - 33%	High Sensitivity to Gain			1.50		15
2	306_Low_TCZ_100	Not a TEC	21.6	21.6	1.9	PCT Cleared - 33%	High Sensitivity to Gain			1.50		16
3	306_Low_ECZ_100	Not a TEC	21.6	13.3	0.48	PCT Cleared - 33%	High Sensitivity to Gain			1.50		2
4	306_Low_HTZ_100	Not a TEC	21.6	1.3	0.44	PCT Cleared - 33%	High Sensitivity to Gain			1.50		1
5	306_Verylow_TCZ_100	Not a TEC	18	18.0	3.1	PCT Cleared - 33%	High Sensitivity to Gain			1.50		21
6	306_Verylow_TCZ_5	Not a TEC	18	18.0	0.03	PCT Cleared - 33%	High Sensitivity to Gain			1.50		1
7	306_Verylow_ECZ_100	Not a TEC	18	17.0	0.03	PCT Cleared - 33%	High Sensitivity to Gain			1.50		1

8	306_Veryl ow_HTZ_1 00	Not a TEC	18	16.0	0.07	PCT Cleared - 33%	High Sensitivity to Gain			1.50		1
											Subtot al	**58**
Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion												
45	352_Low_T CZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	17.4	17.4	0.78	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	8

46	352_Low_TCZ_24	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	17.4	17.4	0.05	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

47	352_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	17.4	9.4	0.05	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

48	352_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	17.4	9.3	0.06	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

49	352_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	7.4	7.4	3.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtot al	**11**
Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion												
54	1191_Mod erate_TCZ _100	Not a TEC	38.1	38.1	0.14	PCT Cleared - 95%	High Sensitivity to Gain			2.50		3
											Subtot al	**3**
Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion												
33	319_High_ TCZ_100	Not a TEC	54.1	54.1	0.6	PCT Cleared - 60%	High Sensitivity to Gain			1.75		14

34	319_High_ECZ_100	Not a TEC	54.1	37.8	0.07	PCT Cleared - 60%	High Sensitivity to Gain			1.75		1
35	319_High_HTZ_100	Not a TEC	54.1	0.2	0.02	PCT Cleared - 60%	High Sensitivity to Gain			1.75		1
36	319_Low_TCZ_100	Not a TEC	21.3	21.3	0.58	PCT Cleared - 60%	High Sensitivity to Gain			1.75		5
37	319_Low_ECZ_100	Not a TEC	21.3	17.9	0.05	PCT Cleared - 60%	High Sensitivity to Gain			1.75		1
											Subtotal	**22**
											Total	**844**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits
Ammobium craspedioides / Yass Daisy (Flora)									
343_Moderate_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10

343_Moderate_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
343_Verylow_TCZ_100	N/A	N/A	14	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	28
352_Low_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
352_Verylow_TCZ_100	N/A	N/A	22	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	44
								Subtotal	**96**
Aprasia parapulchella / Pink-tailed Legless Lizard (Fauna)									
319_High_TCZ_100	54.1	54.1	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	16
319_High_ECZ_100	37.8	37.8	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

319_High_HTZ_100	0.2	0.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
319_Low_TCZ_100	21.3	21.3	0.56	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
319_Low_ECZ_100	17.9	17.9	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
731_Low_TCZ_100	17.7	17.7	0.28	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
731_Low_ECZ_100	10.5	10.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
731_Low_HTZ_100	4.5	4.5	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
731_Verylow_TCZ_100	18.3	18.3	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	10

1191_Moderate_TCZ_100	38.1	38.1	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
								Subtotal	**42**
Burhinus grallarius / Bush Stone-curlew (Fauna)									
343_Moderate_TCZ_100	44.8	44.8	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	30
343_Moderate_ECZ_100	34.6	34.6	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1

352_Low_TCZ_100	17.4	17.4	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	4
352_Low_ECZ_100	9.4	9.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
352_Low_HTZ_100	9.3	9.3	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	1
								Subtotal	**50**
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
314_Veryhigh_TCZ_100	100.0	100.0	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	41
314_Veryhigh_ECZ_100	76.4	76.4	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	21
314_Veryhigh_HTZ_100	14.7	14.7	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

314_Moderate_TCZ_100	43.5	43.5	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	13
314_Moderate_ECZ_100	37.0	37.0	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
314_Moderate_HTZ_100	2.3	2.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
314_Low_TCZ_100	11.5	11.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
316_High_TCZ_100	66.2	66.2	0.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	26
316_High_ECZ_100	47.9	47.9	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
316_High_HTZ_100	7.3	7.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

316_Moderate_TCZ_100	21.5	21.5	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	8
316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
316_Moderate_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	0
316_Low_TCZ_100	19.2	19.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
343_Moderate_TCZ_100	44.8	44.8	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	28
343_Moderate_ECZ_100	34.6	34.6	0.68	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
								Subtotal	**164**
Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)									
343_Moderate_TCZ_100	44.8	44.8	0.96	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	21
343_Moderate_ECZ_100	34.6	34.6	0.36	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**28**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
314_Moderate_TCZ_100	43.5	43.5	3.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	72

314_Moderate_ECZ_100	37.0	37.0	2.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	52
314_Moderate_HTZ_100	2.3	2.3	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
314_Low_TCZ_100	11.5	11.5	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**127**
Diuris tricolor / Pine Donkey Orchid (Flora)									
731_Low_TCZ_100	17.7	17.7	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
731_Low_ECZ_100	10.5	10.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

731_Low_HTZ_100	4.5	4.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Verylow_TCZ_100	18.3	18.3	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
								Subtotal	**12**
Eucalyptus aggregata / Black Gum (Flora)									
1191_Moderate_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
								Subtotal	**2**
Haliaeetus leucogaster / White-bellied Sea-Eagle (Fauna)									
314_Veryhigh_TCZ_100	100.0	100.0	0.06	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	3
314_Veryhigh_HTZ_100	14.7	14.7	0.04	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1

316_Veryhigh_TCZ_100	90.4	90.4	0.75	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	34
316_Veryhigh_ECZ_100	61.7	61.7	0.47	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	14
316_Veryhigh_HTZ_100	9.0	9.0	0.09	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
316_Moderate_TCZ_100	21.5	21.5	0.32	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	3
316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
316_Moderate_HTZ_100	0.0	0.0	0.03	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	0
316_Low_TCZ_100	19.2	19.2	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
								Subtotal	**58**

Hieraaetus morphnoides / Little Eagle (Fauna)									
306_High_TCZ_100	63.6	63.6	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	15
306_Low_TCZ_100	21.6	21.6	0.99	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
306_Low_ECZ_100	13.3	13.3	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
306_Low_HTZ_100	1.3	1.3	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
314_Veryhigh_TCZ_100	100.0	100.0	4.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	165

314_Veryhigh_ECZ_100	76.4	76.4	0.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	26
314_Veryhigh_HTZ_100	14.7	14.7	0.57	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
314_Moderate_TCZ_100	43.5	43.5	4.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	72
314_Moderate_ECZ_100	37.0	37.0	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	50
314_Moderate_HTZ_100	2.3	2.3	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
314_Low_TCZ_100	11.5	11.5	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5

314_Low_ECZ_100	6.0	6.0	0.43	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
314_Low_HTZ_100	1.9	1.9	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
316_Veryhigh_TCZ_100	90.4	90.4	3.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	111
316_Veryhigh_ECZ_100	61.7	61.7	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	84
316_Veryhigh_HTZ_100	9.0	9.0	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
316_High_TCZ_100	66.2	66.2	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	20

316_High_ECZ_100	47.9	47.9	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
316_High_HTZ_100	7.3	7.3	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
316_Moderate_TCZ_100	21.5	21.5	0.98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
316_Moderate_HTZ_100	0.0	0.0	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	0
316_Low_TCZ_100	19.2	19.2	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

343_Moderate_TCZ_100	44.8	44.8	1.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	23
343_Moderate_ECZ_100	34.6	34.6	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Low_TCZ_100	17.4	17.4	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
352_Low_ECZ_100	9.4	9.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

352_Low_HTZ_100	9.3	9.3	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Low_TCZ_100	17.7	17.7	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
731_Low_ECZ_100	10.5	10.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Low_HTZ_100	4.5	4.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**626**
Leucochrysum albicans subsp. tricolor / Hoary Sunray (Flora)									
352_Low_TCZ_100	N/A	N/A	73	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	146

352_Low_TCZ_24	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
352_Low_ECZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
352_Low_HTZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
352_Verylow_TCZ_100	N/A	N/A	305	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	610
731_Low_TCZ_100	N/A	N/A	27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	54
731_Low_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2

731_Low_HTZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
731_Verylow_TCZ_100	N/A	N/A	103	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	206
1191_Moderate_TCZ_100	N/A	N/A	13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
								Subtotal	**1080**
Lophoictinia isura / Square-tailed Kite (Fauna)									
352_Low_TCZ_100	17.4	17.4	0.48	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
352_Low_ECZ_100	9.4	9.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

352_Low_HTZ_100	9.3	9.3	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Low_TCZ_100	17.7	17.7	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
731_Low_ECZ_100	10.5	10.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_Low_HTZ_100	4.5	4.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**9**
Ninox connivens / Barking Owl (Fauna)									
314_Moderate_TCZ_100	43.5	43.5	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13

314_Moderate_ECZ_100	37.0	37.0	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
314_Moderate_HTZ_100	2.3	2.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
314_Low_TCZ_100	11.5	11.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
343_Moderate_TCZ_100	44.8	44.8	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	28
343_Moderate_ECZ_100	34.6	34.6	0.69	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**61**

Ninox strenua / Powerful Owl (Fauna)									
314_Moderate_TCZ_100	43.5	43.5	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
314_Moderate_ECZ_100	37.0	37.0	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
314_Moderate_HTZ_100	2.3	2.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
314_Low_TCZ_100	11.5	11.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**19**
Petauroides volans / Southern Greater Glider (Fauna)									
316_Veryhigh_TCZ_100	90.4	90.4	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	37
316_Veryhigh_ECZ_100	61.7	61.7	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	17

316_Veryhigh_HTZ_100	9.0	9.0	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
316_High_TCZ_100	66.2	66.2	0.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	26
316_High_ECZ_100	47.9	47.9	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	3
316_High_HTZ_100	7.3	7.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
316_Moderate_TCZ_100	21.5	21.5	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2
316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
316_Moderate_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	0

316_Low_TCZ_100	19.2	19.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
								Subtotal	**89**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
314_Moderate_TCZ_100	43.5	43.5	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
314_Moderate_ECZ_100	37.0	37.0	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
314_Moderate_HTZ_100	2.3	2.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
314_Low_TCZ_100	11.5	11.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
316_Veryhigh_TCZ_100	90.4	90.4	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	37

316_Veryhigh_ECZ_100	61.7	61.7	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	17
316_Veryhigh_HTZ_100	9.0	9.0	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
316_High_TCZ_100	66.2	66.2	0.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	26
316_High_ECZ_100	47.9	47.9	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
316_High_HTZ_100	7.3	7.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
316_Moderate_TCZ_100	21.5	21.5	0.75	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

316_Moderate_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	0
316_Low_TCZ_100	19.2	19.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
343_Moderate_TCZ_100	44.8	44.8	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	35
343_Moderate_ECZ_100	34.6	34.6	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**163**

Petaurus norfolcensis - endangered population / Squirrel Glider in the Wagga Wagga Local Government Area (Fauna)									
314_Moderate_TCZ_100	43.5	43.5	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	13
314_Moderate_ECZ_100	37.0	37.0	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	4
314_Moderate_HTZ_100	2.3	2.3	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
314_Low_TCZ_100	11.5	11.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
316_Veryhigh_TCZ_100	90.4	90.4	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	37
316_Veryhigh_ECZ_100	61.7	61.7	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	17
316_Veryhigh_HTZ_100	9.0	9.0	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1

316_High_TCZ_100	66.2	66.2	0.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	26
316_High_ECZ_100	47.9	47.9	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	3
316_High_HTZ_100	7.3	7.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
316_Moderate_TCZ_100	21.5	21.5	0.75	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	8
316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
316_Moderate_HTZ_100	0.0	0.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	0
316_Low_TCZ_100	19.2	19.2	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1

343_Moderate_TCZ_100	44.8	44.8	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	35
343_Moderate_ECZ_100	34.6	34.6	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	1
								Subtotal	**163**
Phascolarctos cinereus / Koala (Fauna)									
306_High_TCZ_100	63.6	63.6	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	20
306_Low_TCZ_100	21.6	21.6	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11

306_Low_ECZ_100	13.3	13.3	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
306_Low_HTZ_100	1.3	1.3	0.44	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
314_Veryhigh_TCZ_100	100.0	100.0	4.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	220
314_Veryhigh_ECZ_100	76.4	76.4	0.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	34
314_Veryhigh_HTZ_100	14.7	14.7	0.57	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
314_Moderate_TCZ_100	43.5	43.5	4.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	96

314_Moderate_ECZ_100	37.0	37.0	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	67
314_Moderate_HTZ_100	2.3	2.3	1.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
314_Low_TCZ_100	11.5	11.5	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
314_Low_ECZ_100	6.0	6.0	0.43	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
314_Low_HTZ_100	1.9	1.9	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
316_Veryhigh_TCZ_100	90.4	90.4	3.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	148

316_Veryhigh_ECZ_100	61.7	61.7	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	112
316_Veryhigh_HTZ_100	9.0	9.0	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	5
316_High_TCZ_100	66.2	66.2	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
316_High_ECZ_100	47.9	47.9	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
316_High_HTZ_100	7.3	7.3	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
316_Moderate_TCZ_100	21.5	21.5	0.98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11

316_Moderate_ECZ_100	19.4	19.4	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
316_Moderate_HTZ_100	0.0	0.0	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	0
316_Low_TCZ_100	19.2	19.2	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
343_Moderate_TCZ_100	44.8	44.8	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	37
343_Moderate_ECZ_100	34.6	34.6	0.71	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
352_Low_TCZ_100	17.4	17.4	0.78	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
352_Low_TCZ_24	17.4	17.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
352_Low_ECZ_100	9.4	9.4	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
352_Low_HTZ_100	9.3	9.3	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
731_Low_TCZ_100	17.7	17.7	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2

731_Low_ECZ_100	10.5	10.5	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
731_Low_HTZ_100	4.5	4.5	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**839**
Polytelis swainsonii / Superb Parrot (Fauna)									
343_Moderate_TCZ_100	44.8	44.8	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	35
343_Moderate_ECZ_100	34.6	34.6	0.71	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12
343_Moderate_HTZ_100	23.6	23.6	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
343_Low_ECZ_100	17.8	17.8	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**49**

Prasophyllum petilum / Tarengo Leek Orchid (Flora)									
1191_Moderate_TCZ_100	38.1	38.1	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
								Subtotal	**3**
Pultenaea humilis / Dwarf Bush-pea (Flora)									
306_High_TCZ_100	63.6	63.6	0.64	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	20
343_Moderate_TCZ_100	44.8	44.8	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	26
343_Moderate_ECZ_100	34.6	34.6	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6
								Subtotal	**52**

Swainsona sericea / Silky Swainson-pea (Flora)									
1191_Moderate_TCZ_100	38.1	38.1	0.14	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
								Subtotal	**3**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/23/00038942	6699 Humelink Assessment - Inland Slopes - 3	22/06/2023
Assessor Name	**Report Created**	**BAM Data version ***
Simon Tweed	18/08/2023	61
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17040	Major Projects	Finalised
Assessment Revision		**Date Finalised**
0		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion

Black Falcon	Falco subniger	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Diamond Firetail	Stagonopleura guttata	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region

Diamond Firetail	Stagonopleura guttata	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Dusky Woodswallow	Artamus cyanopterus cyanopterus	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Eastern False Pipistrelle	Falsistrellus tasmaniensis	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region

Eastern False Pipistrelle	Falsistrellus tasmaniensis	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Flame Robin	Petroica phoenicea	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Gang-gang Cockatoo	Callocephalon fimbriatum	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region

Gang-gang Cockatoo	Callocephalon fimbriatum	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Glossy Black-Cockatoo	Calyptorhynchus lathami	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
Grey-headed Flying-fox	Pteropus poliocephalus	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion

Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Little Eagle	Hieraaetus morphnoides	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Little Eagle	Hieraaetus morphnoides	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Little Lorikeet	Glossopsitta pusilla	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Malleefowl	Leipoa ocellata	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
Masked Owl	Tyto novaehollandiae	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Painted Honeyeater	Grantiella picta	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion

Painted Honeyeater	Grantiella picta	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
Powerful Owl	Ninox strenua	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Regent Honeyeater	Anthochaera phrygia	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Rosenberg's Goanna	Varanus rosenbergi	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Rosenberg's Goanna	Varanus rosenbergi	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Scarlet Robin	Petroica boodang	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Speckled Warbler	Chthonicola sagittata	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Speckled Warbler	Chthonicola sagittata	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Spotted Harrier	Circus assimilis	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Square-tailed Kite	Lophoictinia isura	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
Superb Parrot	Polytelis swainsonii	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Swift Parrot	Lathamus discolor	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region

Swift Parrot	Lathamus discolor	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
Turquoise Parrot	Neophema pulchella	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Varied Sittella	Daphoenositta chrysoptera	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region

Varied Sittella	Daphoenositta chrysoptera	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region
		316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
White-throated Needletail	Hirundapus caudacutus	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region
		314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region

White-throated Needletail	Hirundapus caudacutus	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region
		319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion
		343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Yellow-bellied Glider	Petaurus australis	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/23/00038942

Assessment name
6699 Humelink Assessment - Inland Slopes - 3

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

Assessment Type
Major Projects

BAM Case Status
Finalised

Assessment Revision
0

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	306_High_TCZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	High_TCZ_100	0.64	1	

2	306_Low_TCZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Low_TCZ_100	1.92	1	
3	306_Low_ECZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Low_ECZ_100	0.48	1	
4	306_Low_HTZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Low_HTZ_100	0.44	1	
5	306_Verylow_TCZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Verylow_TCZ_100	3.08	2	
6	306_Verylow_TCZ_5	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Verylow_TCZ_5	0.03	1	
7	306_Verylow_ECZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Verylow_ECZ_100	0.03	1	
8	306_Verylow_HTZ_100	306-Red Box - Red Stringybark - Nortons Box hill heath shrub - tussock grass open forest of the Tumut region	Verylow_HTZ_100	0.07	1	
9	314_Veryhigh_TCZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Veryhigh_TCZ_100	4.4	2	

10	314_Veryhigh_ECZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Veryhigh_ECZ_100	0.9	1	
11	314_Veryhigh_HTZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Veryhigh_HTZ_100	0.57	1	
12	314_Moderate_TCZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Moderate_TCZ_100	5.17	3	
13	314_Moderate_ECZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Moderate_ECZ_100	4.07	2	
14	314_Moderate_HTZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Moderate_HTZ_100	2.08	2	
15	314_Low_TCZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Low_TCZ_100	1.16	1	
16	314_Low_ECZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Low_ECZ_100	0.43	1	
17	314_Low_HTZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Low_HTZ_100	0.19	1	

18	314_Verylow_TCZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Verylow_TCZ_100	3.98	2	
19	314_Verylow_ECZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Verylow_ECZ_100	0.45	1	
20	314_Verylow_HTZ_100	314-Apple Box - Red Stringybark basalt scree open forest in the upper Murray River region	Verylow_HTZ_100	0.1	1	
21	316_Veryhigh_TCZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Veryhigh_TCZ_100	3.27	2	
22	316_Veryhigh_ECZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Veryhigh_ECZ_100	3.64	2	
23	316_Veryhigh_HTZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Veryhigh_HTZ_100	1.04	1	
24	316_High_TCZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	High_TCZ_100	0.8	1	

25	316_High_ECZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	High_ECZ_100	0.13	1	
26	316_High_HTZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	High_HTZ_100	0.19	1	
27	316_Moderate_TCZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Moderate_TCZ_100	0.98	1	
28	316_Moderate_ECZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Moderate_ECZ_100	0.14	1	
29	316_Moderate_HTZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Moderate_HTZ_100	0.05	1	
30	316_Low_TCZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Low_TCZ_100	2.54	2	

31	316_Low_ECZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Low_ECZ_100	0.08	1	
32	316_Low_HTZ_100	316-Nortons Box - Red Box - Red Stringybark +/- Nodding Flax Lily forb-grass open forest mainly on the Tumut region	Low_HTZ_100	0.07	1	
33	319_High_TCZ_100	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	High_TCZ_100	0.6	1	
34	319_High_ECZ_100	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	High_ECZ_100	0.07	1	
35	319_High_HTZ_100	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	High_HTZ_100	0.02	1	
36	319_Low_TCZ_100	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	Low_TCZ_100	0.58	1	

37	319_Low_ECZ_100	319-Tumbledown Red Gum - White Cypress Pine hill woodland in the southern part of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.05	1	
38	343_Moderate_TCZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Moderate_TCZ_100	1.65	1	
39	343_Moderate_ECZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.71	1	
40	343_Moderate_HTZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.03	1	

41	343_Low_ECZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Low_ECZ_100	0.04	1	
42	343_Verylow_TCZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Verylow_TCZ_100	3.21	2	
43	343_Verylow_ECZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Verylow_ECZ_100	0.05	1	
44	343_Verylow_HTZ_100	343-Mugga Ironbark - Red Box - Red Stringybark - Western Grey Box grass/shrub woodland on metamorphic substrates in the Tarcutta - Gundagai region, NSW South Western Slopes Bioregion	Verylow_HTZ_100	0.01	1	

45	352_Low_TCZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_TCZ_100	0.78	1	
46	352_Low_TCZ_24	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_TCZ_24	0.05	1	
47	352_Low_ECZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_ECZ_100	0.05	1	
48	352_Low_HTZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_HTZ_100	0.06	1	

49	352_Verylow_TCZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_TCZ_100	3.25	2	
50	731_Low_TCZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Low_TCZ_100	0.28	1	
51	731_Low_ECZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Low_ECZ_100	0.01	1	
52	731_Low_HTZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Low_HTZ_100	0.05	1	
53	731_Verylow_TCZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Verylow_TCZ_100	1.1	1	
54	1191_Moderate_TCZ_100	1191-Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	Moderate_TCZ_100	0.14	1	

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029445

Proposal Name
6699 Humelink Assessment - Murrumbateman

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
6

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Species
Grevillea iaspicula / Wee Jasper Grevillea
Miniopterus orianae oceanensis / Large Bent-winged Bat
Caladenia concolor / Crimson Spider Orchid
Pomaderris pallida / Pale Pomaderris

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3.0	8	0	8
278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	0.1	0	0	0
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	13.6	61	34	95
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.6	0	49	49
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Not a TEC	1.2	21	0	21

322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	Not a TEC	0.5	14	0	14
349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Not a TEC	3.0	0	46	46
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	3.5	71	0	71
352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3.5	35	0	35
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Not a TEC	0.5	15	0	15
1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Not a TEC	12.9	329	10	339

1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	54.8	542	374	916

266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	266_Moderate_TCZ_100	Yes	7	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	266_Moderate_ ECZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	266_Low_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	266_Low_TCZ_5	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	266_Low_ECZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	266_Low_ECZ_5	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	278_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	280_High_TCZ_100	Yes	40	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	280_High_ECZ_100	Yes	19	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	280_High_HTZ_	Yes	2	Murrumbateman, Bondo, Crookwell,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307,		100			Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	280_Moderate_TCZ_100	No	27	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	280_Moderate_TCZ_5	No	4	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	280_Moderate_ECZ_100	No	2	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	280_Moderate_HTZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	280_Low_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	280_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	280_Low_ECZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Like-for-like credit retirement options					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	283_Veryhigh_TCZ_100	No	14	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	283_Veryhigh_ECZ_100	No	23	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native	-	283_Veryhigh_HTZ_100	No	2	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains.

	Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	283_High_TCZ_100	No	3	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	283_High_ECZ_100	No	2	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	283_High_HTZ_	No	1	Murrumbateman, Bondo, Crookwell,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307,		100			Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	283_Moderate_TCZ_100	No	3	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	283_Moderate_ECZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_High_TCZ_100	Yes	10	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_High_ECZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_TCZ_100	Yes	8	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_TCZ_5	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_ECZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398,	Western Slopes Dry Sclerophyll Forests <50%	322_High_TCZ_100	Yes	11	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781,					

	3782, 3783, 3784, 3785, 3786, 4153					
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398, 399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655,	Western Slopes Dry Sclerophyll Forests <50%	322_High_ECZ_100	Yes	2	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398, 399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457,	Western Slopes Dry Sclerophyll Forests <50%	322_High_HTZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					
	Western Slopes Dry Sclerophyll Forests This includes PCT's:	Western Slopes Dry Sclerophyll Forests <50%	322_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy

	54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398, 399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753,					Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					

349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_High_TCZ_100	No	6	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_High_ECZ_100	No	5	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_High_HTZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_TCZ_100	No	15	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_TCZ_5-25	No	14	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_ ECZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_ ECZ_5-25	No	3	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_HTZ_5-25	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Low_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Low_ECZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate_TCZ_100	Yes	56	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate_ ECZ_100	Yes	7	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate_ HTZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Low_TCZ_100	Yes	6	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Low_ECZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	352_Moderate_TCZ_100	Yes	17	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	352_Moderate_	Yes	13	Murrumbateman, Bondo, Crookwell,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307,		ECZ_100			Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	352_Moderate_HTZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	352_Low_TCZ_100	Yes	3	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	352_Low_ECZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	352_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	352_Verylow_ECZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	352_Verylow_HTZ_101	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_TCZ_100	Yes	12	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_ECZ_100	Yes	2	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_HTZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryhigh_TCZ_100	Yes	50	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryhigh_ECZ_100	Yes	28	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Veryhigh_HTZ_100	Yes	4	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_TCZ_100	Yes	81	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_ECZ_100	Yes	88	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_HTZ_100	Yes	8	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_100	Yes	48	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_ECZ_100	Yes	21	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_HTZ_100	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_TCZ_100	No	8	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_HTZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Verylow_TCZ_100	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	1330_Veryhigh_TCZ_100	Yes	37	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box -	-	1330_Veryhigh	Yes	31	Murrumbateman, Bondo, Crookwell,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307,		_ECZ_100			Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421,	-	1330_Veryhigh_HTZ_100	Yes	5	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt	-	1330_High_TCZ_100	Yes	18	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397,					

	3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	1330_High_ECZ_100	Yes	26	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	1330_High_HTZ_100	Yes	5	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW	-	1330_Moderate_TCZ_100	Yes	87	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

	North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	1330_Moderate_TCZ_5	Yes	8	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	1330_Moderate_ECZ_100	Yes	61	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum	-	1330_Moderate_ECZ_5	Yes	4	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro,

	Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331,					Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	1330_Moderate_HTZ_100	Yes	8	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	1330_Moderate_HTZ_5	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415,					

	3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,	-	1330_Low_TCZ_100	Yes	182	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	1330_Low_TCZ_5	Yes	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	1330_Low_ECZ_100	Yes	65	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363,					kilometers of the outer edge of the impacted site.

	3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599,	-	1330_Low_HTZ_100	Yes	3	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276,	-	1330_Verylow_TCZ_100	No	367	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and	-	1330_Verylow_ECZ_100	No	6	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy

	Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383,					Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	1330_Verylow_HTZ_100	No	1	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Ammobium craspedioides / Yass Daisy	**266_Low_TCZ_100, 266_Low_ECZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 287_High_TCZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Verylow_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	272.0	544.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**266_Low_TCZ_100, 278_Verylow_TCZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Low_TCZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 322_Verylow_TCZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 351_Low_ECZ_100, 351_Verylow_TCZ_100, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100,**	37.1	497.00

	1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100, 280_Low_ECZ_100		
Caladenia concolor / Crimson Spider Orchid	**280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100**	3.6	114.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **280_High_TCZ_100,** **280_High_ECZ_100,** **280_High_HTZ_100,** **280_Moderate_TCZ_100,** **280_Moderate_ECZ_100,** **283_Veryhigh_TCZ_100,** **283_Veryhigh_ECZ_100,** **283_Veryhigh_HTZ_100,** **283_Moderate_TCZ_100,** **283_Moderate_ECZ_100,** **287_High_TCZ_100,** **287_High_ECZ_100,** **287_Low_TCZ_100,** **287_Low_TCZ_5,** **322_High_TCZ_100,** **322_High_ECZ_100,** **322_High_HTZ_100,** **349_High_TCZ_100,** **349_High_ECZ_100,** **349_High_HTZ_100,** **351_Moderate_TCZ_100,** **351_Moderate_ECZ_100,** **351_Moderate_HTZ_100,** **351_Low_TCZ_100,** **352_Moderate_TCZ_100,**	28.6	741.00

	352_Moderate_ECZ_100, **352_Moderate_HTZ_100,** **352_Low_TCZ_100,** **352_Low_ECZ_100,** **731_High_TCZ_100,** **1093_Veryhigh_TCZ_100,** **1093_Veryhigh_ECZ_100,** **1093_Veryhigh_HTZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1330_Veryhigh_TCZ_100,** **1330_Veryhigh_ECZ_100,** **1330_Veryhigh_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Moderate_TCZ_100,** **1330_Moderate_ECZ_100,** **1330_Moderate_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,**		

	1330_Low_HTZ_100		
Calyptorhynchus lathami / Glossy Black-Cockatoo	**322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	18.8	509.00

Cercartetus nanus / Eastern Pygmy-possum	**283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	6.0	143.00

Delma impar / Striped Legless Lizard	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	54.8	551.00
Grevillea iaspicula / Wee Jasper Grevillea	**266_Low_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100**	9.0	27.00

Haliaeetus leucogaster / White-bellied Sea-Eagle	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 352_Low_TCZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	3.3	73.00

Hieraaetus morphnoides / Little Eagle	**266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **280_High_TCZ_100,** **280_High_ECZ_100,** **280_High_HTZ_100,** **280_Moderate_TCZ_100,** **280_Moderate_ECZ_100,** **283_Veryhigh_TCZ_100,** **283_Veryhigh_ECZ_100,** **283_Veryhigh_HTZ_100,** **283_Moderate_TCZ_100,** **283_Moderate_ECZ_100,** **287_High_TCZ_100,** **287_High_ECZ_100,** **287_Low_TCZ_100,** **287_Low_TCZ_5,** **287_Low_ECZ_100,** **322_High_TCZ_100,** **322_High_ECZ_100,** **322_High_HTZ_100,** **349_High_TCZ_100,** **349_High_ECZ_100,** **349_High_HTZ_100,** **349_Moderate_TCZ_100,** **349_Low_TCZ_100,** **351_Moderate_TCZ_100,** **351_Moderate_ECZ_100,**	38.0	728.00

	351_Moderate_HTZ_100, **351_Low_TCZ_100,** **351_Low_ECZ_100,** **352_Moderate_TCZ_100,** **352_Moderate_ECZ_100,** **352_Moderate_HTZ_100,** **352_Low_TCZ_100,** **352_Low_ECZ_100,** **731_High_TCZ_100,** **731_High_ECZ_100,** **731_High_HTZ_100,** **1093_Veryhigh_TCZ_100,** **1093_Veryhigh_ECZ_100,** **1093_Veryhigh_HTZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_HTZ_100,** **1330_Veryhigh_TCZ_100,** **1330_Veryhigh_ECZ_100,** **1330_Veryhigh_HTZ_100,** **1330_High_TCZ_100,**		

	1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		

Keyacris scurra / Key's Matchstick Grasshopper	**266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Low_TCZ_100,** **266_Low_TCZ_5,** **266_Low_ECZ_100,** **266_Low_ECZ_5,** **278_Verylow_TCZ_100,** **283_Veryhigh_TCZ_100,** **283_Veryhigh_ECZ_100,** **283_Veryhigh_HTZ_100,** **283_High_TCZ_100,** **283_High_ECZ_100,** **283_High_HTZ_100,** **283_Moderate_TCZ_100,** **283_Moderate_ECZ_100,** **1330_Veryhigh_TCZ_100,** **1330_Veryhigh_ECZ_100,** **1330_Veryhigh_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Moderate_TCZ_100,** **1330_Moderate_TCZ_5,** **1330_Moderate_ECZ_100,** **1330_Moderate_ECZ_5,** **1330_Moderate_HTZ_100,** **1330_Moderate_HTZ_5,**	59.5	788.00

	1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100		

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**349_Moderate_TCZ_100, 349_Low_TCZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 351_Low_ECZ_100, 351_Verylow_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Verylow_TCZ_100, 352_Verylow_ECZ_100, 352_Verylow_HTZ_101, 731_High_ECZ_100, 731_High_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100,**	3037.0	6074.00

	1093_Low_ECZ_100, 1093_Verylow_TCZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100		

Lophoictinia isura / Square-tailed Kite	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 731_High_TCZ_100, 731_High_ECZ_100,**	19.6	418.00

	731_High_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100		
Miniopterus orianae oceanensis / Large Bent-winged Bat	**351_Moderate_ECZ_100, 351_Moderate_HTZ_100**	0.1	4.00

Myotis macropus / Southern Myotis	**349_Moderate_TCZ_100, 349_Moderate_TCZ_5-25, 349_Low_TCZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	8.1	180.00

Ninox strenua / Powerful Owl	**283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 731_High_TCZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100,**	26.4	672.00

	1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Petauroides volans / Southern Greater Glider	**351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	1.7	43.00

Petaurus norfolcensis / Squirrel Glider	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 1330_High_TCZ_100,**	12.5	259.00

	1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		

Phascolarctos cinereus / Koala	**266_Moderate_TCZ_100,** **266_Moderate_ECZ_100,** **266_Low_TCZ_5,** **266_Low_ECZ_5,** **280_High_TCZ_100,** **280_High_ECZ_100,** **280_High_HTZ_100,** **280_Moderate_TCZ_100,** **280_Moderate_TCZ_5,** **280_Moderate_ECZ_100,** **283_Veryhigh_TCZ_100,** **283_Veryhigh_ECZ_100,** **283_Veryhigh_HTZ_100,** **283_High_TCZ_100,** **283_High_ECZ_100,** **283_High_HTZ_100,** **283_Moderate_TCZ_100,** **283_Moderate_ECZ_100,** **287_High_TCZ_100,** **287_High_ECZ_100,** **287_Low_TCZ_100,** **287_Low_TCZ_5,** **287_Low_ECZ_100,** **322_High_TCZ_100,** **322_High_ECZ_100,** **322_High_HTZ_100,** **349_High_TCZ_100,**	41.7	1032.00

	349_High_ECZ_100, **349_High_HTZ_100,** **349_Moderate_TCZ_100,** **349_Moderate_TCZ_5-25,** **349_Moderate_ECZ_5-25,** **349_Moderate_HTZ_5-25,** **349_Low_TCZ_100,** **351_Moderate_TCZ_100,** **351_Moderate_ECZ_100,** **351_Moderate_HTZ_100,** **351_Low_TCZ_100,** **351_Low_ECZ_100,** **352_Moderate_TCZ_100,** **352_Moderate_ECZ_100,** **352_Moderate_HTZ_100,** **352_Low_TCZ_100,** **352_Low_ECZ_100,** **731_High_TCZ_100,** **731_High_ECZ_100,** **731_High_HTZ_100,** **1093_Veryhigh_TCZ_100,** **1093_Veryhigh_ECZ_100,** **1093_Veryhigh_HTZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,**		

	1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100		

Polytelis swainsonii / Superb Parrot	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 349_High_TCZ_100, 349_High_ECZ_100, 349_High_HTZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 1330_Veryhigh_TCZ_100,**	18.0	394.00

	1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Pomaderris pallida / Pale Pomaderris	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100**	0.8	40.00

Prasophyllum petilum / Tarengo Leek Orchid	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	11.2	210.00

Swainsona recta / Small Purple-pea	**266_Moderate_TCZ_100, 266_Low_TCZ_100, 266_Low_TCZ_5, 266_Low_ECZ_100, 266_Low_ECZ_5, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	35.8	421.00

Swainsona sericea / Silky Swainson-pea	**266_Moderate_TCZ_100, 266_Low_TCZ_100, 266_Low_TCZ_5, 266_Low_ECZ_100, 266_Low_ECZ_5, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Verylow_TCZ_100, 283_Veryhigh_TCZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100,**	46.6	505.00

	1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100, 280_Low_ECZ_100		

Synemon plana / Golden Sun Moth	**280_High_TCZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Verylow_TCZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 349_Moderate_TCZ_5-25, 349_Low_ECZ_100, 352_Verylow_TCZ_100, 352_Verylow_ECZ_100, 352_Verylow_HTZ_101, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Verylow_TCZ_100, 1330_Moderate_TCZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	16.1	118.00

Thesium australe / Austral Toadflax	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	41.3	412.00

Credit Retirement Options

Like-for-like credit retirement options

Ammobium craspedioides / Yass Daisy	Spp	IBRA subregion
	Ammobium craspedioides / Yass Daisy	Any in NSW

Aprasia parapulchella / Pink-tailed Legless Lizard	Spp	IBRA subregion
	Aprasia parapulchella / Pink-tailed Legless Lizard	Any in NSW
Caladenia concolor / Crimson Spider Orchid	Spp	IBRA subregion
	Caladenia concolor / Crimson Spider Orchid	Any in NSW
Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calyptorhynchus lathami / Glossy Black-Cockatoo	Spp	IBRA subregion
	Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW
Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Delma impar / Striped Legless Lizard	Spp	IBRA subregion
	Delma impar / Striped Legless Lizard	Any in NSW
Grevillea iaspicula / Wee Jasper Grevillea	Spp	IBRA subregion

	Grevillea iaspicula / Wee Jasper Grevillea	Any in NSW
Haliaeetus leucogaster / White-bellied Sea-Eagle	Spp	IBRA subregion
	Haliaeetus leucogaster / White-bellied Sea-Eagle	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Keyacris scurra / Key's Matchstick Grasshopper	Spp	IBRA subregion
	Keyacris scurra / Key's Matchstick Grasshopper	Any in NSW
Leucochrysum albicans subsp. tricolor / Hoary Sunray	Spp	IBRA subregion
	Leucochrysum albicans subsp. tricolor / Hoary Sunray	Any in NSW
Lophoictinia isura / Square-tailed Kite	Spp	IBRA subregion
	Lophoictinia isura / Square-tailed Kite	Any in NSW
Miniopterus orianae oceanensis / Large Bent-winged Bat	Spp	IBRA subregion
	Miniopterus orianae oceanensis / Large Bent-winged Bat	Any in NSW

Myotis macropus / Southern Myotis	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Petauroides volans / Southern Greater Glider	Spp	IBRA subregion
	Petauroides volans / Southern Greater Glider	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Pomaderris pallida / Pale Pomaderris	Spp	IBRA subregion

	Pomaderris pallida / Pale Pomaderris	Any in NSW
Prasophyllum petilum / Tarengo Leek Orchid	Spp	IBRA subregion
	Prasophyllum petilum / Tarengo Leek Orchid	Any in NSW
Swainsona recta / Small Purple-pea	Spp	IBRA subregion
	Swainsona recta / Small Purple-pea	Any in NSW
Swainsona sericea / Silky Swainson-pea	Spp	IBRA subregion
	Swainsona sericea / Silky Swainson-pea	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW
Thesium australe / Austral Toadflax	Spp	IBRA subregion
	Thesium australe / Austral Toadflax	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id

00029440/BAAS17040/21/00029445

Proposal Name

6699 Humelink Assessment - Murrumbateman

BAM data last updated *

22/06/2023

Assessor Name

Simon Tweed

Assessor Number

BAAS17040

BAM Data version *

61

Proponent Name(s)

Jack McGovern

Report Created

18/08/2023

BAM Case Status

Finalised

Assessment Revision

6

Assessment Type

Major Projects

Date Finalised

18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Species
Grevillea iaspicula / Wee Jasper Grevillea
Miniopterus orianae oceanensis / Large Bent-winged Bat
Caladenia concolor / Crimson Spider Orchid
Pomaderris pallida / Pale Pomaderris

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3.0	8	0	8.00
278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	0.1	0	0	0.00
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	13.6	61	34	95.00

283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	1.6	0	49	49.00
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Not a TEC	1.2	21	0	21.00
322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	Not a TEC	0.5	14	0	14.00
349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Not a TEC	3.0	0	46	46.00
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	3.5	71	0	71.00
352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	3.5	35	0	35.00
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	Not a TEC	0.5	15	0	15.00

1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Not a TEC	12.9	329	10	339.00
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	54.8	542	374	916.00

266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	266_Moderate_TCZ_100	Yes	7	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	266_Moderate_ECZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	266_Low_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	266_Low_TCZ_5	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698,	-	266_Low_ECZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103,	-	266_Low_ECZ_5	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	278_Verylow_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	280_High_TCZ_100	Yes	40	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	280_High_ECZ_100	Yes	19	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698,	-	280_High_HTZ_100	Yes	2	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103,	-	280_Moderate_TCZ_100	No	27	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	280_Moderate_TCZ_5	No	4	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381,	-	280_Moderate_ECZ_100	No	2	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,	-	280_Moderate_HTZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland,	-	280_Low_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the

	Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					impacted site.
	White Box - Yellow Box -	-	280_Verylo	No	0	Murrumbateman,Bondo, Crookwell,

	Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373,		w_TCZ_100			Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324,	-	280_Low_ECZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	283_Veryhigh_TCZ_100	No	14	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	283_Veryhigh_ECZ_100	No	23	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	283_Veryhigh_HTZ_100	No	2	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the	-	283_High_TCZ_100	No	3	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

	NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611,	-	283_High_ECZ_100	No	2	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,	-	283_High_HTZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	283_Moderate_TCZ_100	No	3	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	283_Moderate_ECZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_High_TCZ_100	Yes	10	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_High_ECZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_TCZ_100	Yes	8	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_TCZ_5	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Low_ECZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 217, 255, 273, 287, 330, 333, 341, 343, 346, 348, 358, 403, 455, 456, 472, 577, 581, 592, 617, 673, 676, 713, 940, 956, 1277, 1279, 1313, 1316, 1381, 1610, 1661, 1668, 1709, 3753, 3754, 3756, 3768, 3769, 4153	Western Slopes Dry Sclerophyll Forests >=50% and <70%	287_Verylow_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_High_TCZ_100	Yes (including artificial)	10	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_High_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Low_TCZ_100	Yes (including artificial)	8	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Low_TCZ_5	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Low_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	287_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398, 399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313,	Western Slopes Dry Sclerophyll Forests <50%	322_High_TCZ_100	Yes	11	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398, 399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473,	Western Slopes Dry Sclerophyll Forests <50%	322_High_ECZ_100	Yes	2	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					
	Western Slopes Dry Sclerophyll Forests This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398,	Western Slopes Dry Sclerophyll Forests <50%	322_High_HTZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					
	Western Slopes Dry Sclerophyll Forests	Western Slopes Dry Sclerophyll Forests <50%	322_Verylow_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman

	This includes PCT's: 54, 110, 179, 217, 243, 255, 270, 273, 287, 291, 309, 321, 322, 323, 324, 325, 327, 330, 331, 333, 341, 343, 346, 348, 354, 358, 379, 387, 396, 398, 399, 401, 402, 403, 404, 405, 406, 407, 408, 409, 414, 415, 417, 419, 420, 423, 425, 430, 431, 440, 443, 449, 455, 456, 457, 459, 462, 463, 467, 468, 469, 470, 471, 472, 473, 476, 477, 478, 479, 480, 482, 515, 531, 532, 576, 577, 581, 592, 610, 617, 671, 673, 676, 712, 713, 714, 746, 863, 889, 940, 956, 1133, 1176, 1277, 1278, 1279, 1307, 1313, 1314, 1316, 1381, 1398, 1610, 1629, 1654, 1655, 1656, 1657, 1660, 1661, 1663, 1668, 1669, 1671, 1672, 1674, 1676, 1677, 1678, 1679, 1680, 1709, 1711, 1770, 1771, 3753, 3754, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3766, 3767, 3768,					and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 4153					
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	322_High_TCZ_100	Yes (including artificial)	11	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	322_High_ECZ_100	Yes (including artificial)	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	322_High_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	322_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_High_TCZ_100	No	6	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_High_ECZ_100	No	5	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_High_HTZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_TCZ_100	No	15	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_TCZ_5-25	No	14	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_ECZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_ECZ_5-25	No	3	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Moderate_HTZ_5-25	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Low_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	349_Low_ECZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_High_TCZ_100	No	6	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_High_ECZ_100	No	5	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_High_HTZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Moderate_TCZ_100	No	15	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Moderate_TCZ_5-25	No	14	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Moderate_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Moderate_ECZ_5-25	No	3	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Moderate_HTZ_5-25	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Low_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	349_Low_ECZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate_TCZ_100	Yes	56	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate_ECZ_100	Yes	7	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate_HTZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Low_TCZ_100	Yes	6	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Low_ECZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Verylow_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Moderate_TCZ_100	Yes (including artificial)	56	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Moderate_ECZ_100	Yes (including artificial)	7	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Low_TCZ_100	Yes (including artificial)	6	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Low_ECZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Verylow_TCZ_100	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332,	-	352_Moderate_TCZ_100	Yes	17	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654,	-	352_Moderate_ECZ_100	Yes	13	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	352_Moderate_HTZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	352_Low_TCZ_100	Yes	3	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	352_Low_ECZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived	-	352_Verylow_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains.

	Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401,	-	352_Verylow_ECZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	352_Verylow_HTZ_101	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_TCZ_100	Yes	12	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_ECZ_100	Yes	2	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Grassy Woodlands This includes PCT's: 303, 312, 350, 654, 680, 703, 705, 731, 1103, 1330, 1334, 1501, 3366, 3367, 3368, 3370, 3372, 3373, 3374, 3376, 3377	Southern Tableland Grassy Woodlands >=70% and <90%	731_High_HTZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 2 or higher threat status	731_High_TCZ_100	Yes (including artificial)	12	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 2 or higher threat status	731_High_ECZ_100	Yes (including artificial)	2	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Grassy Woodlands	Tier 2 or higher threat status	731_High_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Very high_TCZ_100	Yes	50	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Very high_ECZ_100	Yes	28	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Very high_HTZ_100	Yes	4	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_TCZ_100	Yes	81	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_ECZ_100	Yes	88	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_High_HTZ_100	Yes	8	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_TCZ_100	Yes	48	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_ECZ_100	Yes	21	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Moderate_HTZ_100	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_TCZ_100	No	8	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_ECZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Low_HTZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177, 3730, 3732, 3734, 3735, 3737, 3738, 3741, 3743, 3744, 3746, 3747	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	1093_Verylow_TCZ_100	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Very high_TCZ_100	Yes (including artificial)	50	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Very high_ECZ_100	Yes (including artificial)	28	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Very high_HTZ_100	Yes (including artificial)	4	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_TCZ_100	Yes (including artificial)	81	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_ECZ_100	Yes (including artificial)	88	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_High_HTZ_100	Yes (including artificial)	8	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_TCZ_100	Yes (including artificial)	48	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_ECZ_100	Yes (including artificial)	21	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Moderate_HTZ_100	Yes (including artificial)	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_TCZ_100	No	8	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_ECZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Low_HTZ_100	No	1	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	1093_Veryl ow_TCZ_10 0	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437,	-	1330_Very high_TCZ_1 00	Yes	37	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281,	-	1330_Very high_ECZ_100	Yes	31	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin,	-	1330_Very high_HTZ_100	Yes	5	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived	-	1330_High_TCZ_100	Yes	18	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains.

	Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398,					or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401,	-	1330_High_ECZ_100	Yes	26	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710,	-	1330_High_HTZ_100	Yes	5	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492,	-	1330_Moderate_TCZ_100	Yes	87	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	1330_Moderate_TCZ_5	Yes	8	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	1330_Moderate_ECZ_100	Yes	61	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the	-	1330_Moderate_ECZ_5	Yes	4	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

	NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533,					Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611,	-	1330_Moderate_HTZ_100	Yes	8	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,	-	1330_Moderate_HTZ_5	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511,	-	1330_Low_TCZ_100	Yes	182	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	1330_Low_TCZ_5	Yes	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's:	-	1330_Low_ECZ_100	Yes	65	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New	-	1330_Low_HTZ_100	Yes	3	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100

	England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					kilometers of the outer edge of the impacted site.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698,	-	1330_Veryllow_TCZ_100	No	367	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103,	-	1330_Veryl ow_ECZ_10 0	No	6	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,	-	1330_Veryllow_HTZ_100	No	1	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Ammobium craspedioides / Yass Daisy	**266_Low_TCZ_100, 266_Low_ECZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 287_High_TCZ_100, 287_Low_TCZ_100, 287_Verylow_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Verylow_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	272.0	544.00

Aprasia parapulchella / Pink-tailed Legless Lizard	**266_Low_TCZ_100, 278_Verylow_TCZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Low_TCZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 322_Verylow_TCZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 351_Low_ECZ_100, 351_Verylow_TCZ_100, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100,**	37.1	497.00

	1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100, 280_Low_ECZ_100		
Caladenia concolor / Crimson Spider Orchid	**280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100**	3.6	114.00

Callocephalon fimbriatum / Gang-gang Cockatoo	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 349_High_TCZ_100, 349_High_ECZ_100, 349_High_HTZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100,**	28.6	741.00

	731_High_TCZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		

Calyptorhynchus lathami / Glossy Black-Cockatoo	**322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	18.8	509.00

Cercartetus nanus / Eastern Pygmy-possum	**283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	6.0	143.00

Delma impar / Striped Legless Lizard	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	54.8	551.00
Grevillea iaspicula / Wee Jasper Grevillea	**266_Low_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100**	9.0	27.00

Haliaeetus leucogaster / White-bellied Sea-Eagle	**283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 352_Low_TCZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	3.3	73.00

Hieraaetus morphnoides / Little Eagle	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 349_High_TCZ_100, 349_High_ECZ_100, 349_High_HTZ_100, 349_Moderate_TCZ_100, 349_Low_TCZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 351_Low_ECZ_100, 352_Moderate_TCZ_100,**	38.0	728.00

	352_Moderate_ECZ_100, **352_Moderate_HTZ_100,** **352_Low_TCZ_100,** **352_Low_ECZ_100,** **731_High_TCZ_100,** **731_High_ECZ_100,** **731_High_HTZ_100,** **1093_Veryhigh_TCZ_100,** **1093_Veryhigh_ECZ_100,** **1093_Veryhigh_HTZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_HTZ_100,** **1330_Veryhigh_TCZ_100,** **1330_Veryhigh_ECZ_100,** **1330_Veryhigh_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Moderate_TCZ_100,** **1330_Moderate_ECZ_100,** **1330_Moderate_HTZ_100,** **1330_Low_TCZ_100,** **1330_Low_ECZ_100,** **1330_Low_HTZ_100**		

Keyacris scurra / Key's Matchstick Grasshopper	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Low_TCZ_100, 266_Low_TCZ_5, 266_Low_ECZ_100, 266_Low_ECZ_5, 278_Verylow_TCZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100,**	59.5	788.00

	1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100		
Leucochrysum albicans subsp. tricolor / Hoary Sunray	**349_Moderate_TCZ_100, 349_Low_TCZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 351_Low_ECZ_100, 351_Verylow_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 352_Verylow_TCZ_100, 352_Verylow_ECZ_100, 352_Verylow_HTZ_101, 731_High_ECZ_100, 731_High_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100,**	3037.0	6074.00

	1093_Verylow_TCZ_100, **1330_Veryhigh_TCZ_100,** **1330_Veryhigh_ECZ_100,** **1330_Veryhigh_HTZ_100,** **1330_High_TCZ_100,** **1330_High_ECZ_100,** **1330_High_HTZ_100,** **1330_Moderate_TCZ_100,** **1330_Moderate_TCZ_5,** **1330_Moderate_ECZ_100,** **1330_Moderate_ECZ_5,** **1330_Moderate_HTZ_100,** **1330_Moderate_HTZ_5,** **1330_Low_TCZ_100,** **1330_Low_TCZ_5,** **1330_Low_ECZ_100,** **1330_Low_HTZ_100,** **1330_Verylow_TCZ_100,** **1330_Verylow_ECZ_100,** **1330_Verylow_HTZ_100**		

Lophoictinia isura / Square-tailed Kite	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 731_High_TCZ_100, 731_High_ECZ_100, 731_High_HTZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100,**	19.6	418.00

	1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100		
Miniopterus orianae oceanensis / Large Bent-winged Bat	**351_Moderate_ECZ_100, 351_Moderate_HTZ_100**	0.1	4.00
Myotis macropus / Southern Myotis	**349_Moderate_TCZ_100, 349_Moderate_TCZ_5-25, 349_Low_TCZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	8.1	180.00

Ninox strenua / Powerful Owl	**283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 731_High_TCZ_100, 1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_Veryhigh_HTZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Low_HTZ_100,**	26.4	672.00

	1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100, 1330_Moderate_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Petauroides volans / Southern Greater Glider	**351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	1.7	43.00

Petaurus norfolcensis / Squirrel Glider	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 351_Moderate_TCZ_100, 351_Moderate_ECZ_100, 351_Moderate_HTZ_100, 351_Low_TCZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_ECZ_100,**	12.5	259.00

	1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Low_HTZ_100		

Phascolarctos cinereus / Koala	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 266_Low_TCZ_5, 266_Low_ECZ_5, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 287_Low_TCZ_5, 287_Low_ECZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 349_High_TCZ_100, 349_High_ECZ_100, 349_High_HTZ_100, 349_Moderate_TCZ_100, 349_Moderate_TCZ_5-25,**	41.7	1032.00

	349_Moderate_ECZ_5-25, **349_Moderate_HTZ_5-25,** **349_Low_TCZ_100,** **351_Moderate_TCZ_100,** **351_Moderate_ECZ_100,** **351_Moderate_HTZ_100,** **351_Low_TCZ_100,** **351_Low_ECZ_100,** **352_Moderate_TCZ_100,** **352_Moderate_ECZ_100,** **352_Moderate_HTZ_100,** **352_Low_TCZ_100,** **352_Low_ECZ_100,** **731_High_TCZ_100,** **731_High_ECZ_100,** **731_High_HTZ_100,** **1093_Veryhigh_TCZ_100,** **1093_Veryhigh_ECZ_100,** **1093_Veryhigh_HTZ_100,** **1093_High_TCZ_100,** **1093_High_ECZ_100,** **1093_High_HTZ_100,** **1093_Moderate_TCZ_100,** **1093_Moderate_ECZ_100,** **1093_Moderate_HTZ_100,** **1093_Low_TCZ_100,** **1093_Low_ECZ_100,** **1093_Low_HTZ_100,** **1330_Veryhigh_TCZ_100,** **1330_Veryhigh_ECZ_100,** **1330_Veryhigh_HTZ_100,**		

	1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100		

Polytelis swainsonii / Superb Parrot	**266_Moderate_TCZ_100, 266_Moderate_ECZ_100, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_ECZ_100, 283_Veryhigh_TCZ_100, 283_Veryhigh_ECZ_100, 283_Veryhigh_HTZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 322_High_TCZ_100, 322_High_ECZ_100, 322_High_HTZ_100, 349_High_TCZ_100, 349_High_ECZ_100, 349_High_HTZ_100, 352_Moderate_TCZ_100, 352_Moderate_ECZ_100, 352_Moderate_HTZ_100, 352_Low_TCZ_100, 352_Low_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100,**	18.0	394.00

	1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100		
Pomaderris pallida / Pale Pomaderris	**1093_Veryhigh_TCZ_100, 1093_Veryhigh_ECZ_100, 1093_High_TCZ_100, 1093_High_ECZ_100, 1093_High_HTZ_100, 1093_Moderate_TCZ_100, 1093_Moderate_ECZ_100, 1093_Moderate_HTZ_100**	0.8	40.00

Prasophyllum petilum / Tarengo Leek Orchid	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100**	11.2	210.00

Swainsona recta / Small Purple-pea	**266_Moderate_TCZ_100, 266_Low_TCZ_100, 266_Low_TCZ_5, 266_Low_ECZ_100, 266_Low_ECZ_5, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	35.8	421.00

Swainsona sericea / Silky Swainson-pea	**266_Moderate_TCZ_100, 266_Low_TCZ_100, 266_Low_TCZ_5, 266_Low_ECZ_100, 266_Low_ECZ_5, 280_High_TCZ_100, 280_High_ECZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Verylow_TCZ_100, 283_Veryhigh_TCZ_100, 283_High_TCZ_100, 283_High_ECZ_100, 283_High_HTZ_100, 283_Moderate_TCZ_100, 283_Moderate_ECZ_100, 1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100,**	46.6	505.00

	1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100, 280_Low_ECZ_100		

Synemon plana / Golden Sun Moth	**280_High_TCZ_100, 280_High_HTZ_100, 280_Moderate_TCZ_100, 280_Moderate_TCZ_5, 280_Moderate_ECZ_100, 280_Moderate_HTZ_100, 280_Low_TCZ_100, 280_Verylow_TCZ_100, 287_High_TCZ_100, 287_High_ECZ_100, 287_Low_TCZ_100, 349_Moderate_TCZ_5-25, 349_Low_ECZ_100, 352_Verylow_TCZ_100, 352_Verylow_ECZ_100, 352_Verylow_HTZ_101, 1093_Low_TCZ_100, 1093_Low_ECZ_100, 1093_Verylow_TCZ_100, 1330_Moderate_TCZ_100, 1330_Low_TCZ_100, 1330_Low_ECZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	16.1	118.00

Thesium australe / Austral Toadflax	**1330_Veryhigh_TCZ_100, 1330_Veryhigh_ECZ_100, 1330_Veryhigh_HTZ_100, 1330_High_TCZ_100, 1330_High_ECZ_100, 1330_High_HTZ_100, 1330_Moderate_TCZ_100, 1330_Moderate_TCZ_5, 1330_Moderate_ECZ_100, 1330_Moderate_ECZ_5, 1330_Moderate_HTZ_100, 1330_Moderate_HTZ_5, 1330_Low_TCZ_100, 1330_Low_TCZ_5, 1330_Low_ECZ_100, 1330_Low_HTZ_100, 1330_Verylow_TCZ_100, 1330_Verylow_ECZ_100, 1330_Verylow_HTZ_100**	41.3	412.00

Credit Retirement Options

Like-for-like options

Ammobium craspedioides/ Yass Daisy	Spp		IBRA region
	Ammobium craspedioides/Yass Daisy		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Aprasia parapulchella/ Pink-tailed Legless Lizard	Spp	IBRA region	
	Aprasia parapulchella/Pink-tailed Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Caladenia concolor/ Crimson Spider Orchid	Spp	IBRA region	
	Caladenia concolor/Crimson Spider Orchid	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Flora	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp	IBRA region	
	Callocephalon fimbriatum/Gang-gang Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Calyptorhynchus lathami/ Glossy Black-Cockatoo	Spp	IBRA region	
	Calyptorhynchus lathami/Glossy Black-Cockatoo	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cercartetus nanus/ Eastern Pygmy-possum	Spp	IBRA region	
	Cercartetus nanus/Eastern Pygmy-possum	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Delma impar/ Striped Legless Lizard	Spp	IBRA region	

	Delma impar/Striped Legless Lizard	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grevillea iaspicula/ Wee Jasper Grevillea	Spp	IBRA region	
	Grevillea iaspicula/Wee Jasper Grevillea *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW	
Haliaeetus leucogaster/ White-bellied Sea-Eagle	Spp	IBRA region	
	Haliaeetus leucogaster/White-bellied Sea-Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Hieraaetus morphnoides/ Little Eagle	Spp	IBRA region	
	Hieraaetus morphnoides/Little Eagle	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Keyacris scurra/ Key's Matchstick Grasshopper	Spp	IBRA region	
	Keyacris scurra/Key's Matchstick Grasshopper	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Leucochrysum albicans subsp. tricolor/ Hoary Sunray	Spp	IBRA region	
	Leucochrysum albicans subsp. tricolor/Hoary Sunray	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Lophoictinia isura/ Square-tailed Kite	Spp	IBRA region	
	Lophoictinia isura/Square-tailed Kite	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Miniopterus orianae oceanensis/ Large Bent-winged Bat	Spp	IBRA region	
	Miniopterus orianae oceanensis/Large Bent-winged Bat	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Myotis macropus/ Southern Myotis	Spp	IBRA region	

	Myotis macropus/Southern Myotis	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox strenua/ Powerful Owl	Spp	IBRA region	
	Ninox strenua/Powerful Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petauroides volans/ Southern Greater Glider	Spp	IBRA region	
	Petauroides volans/Southern Greater Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	
	Petaurus norfolcensis/Squirrel Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp	IBRA region	
	Phascolarctos cinereus/Koala	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Polytelis swainsonii/ Superb Parrot	Spp	IBRA region	
	Polytelis swainsonii/Superb Parrot	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pomaderris pallida/ Pale Pomaderris	Spp	IBRA region	
	Pomaderris pallida/Pale Pomaderris	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Prasophyllum petilum/ Tarengo Leek Orchid	Spp	IBRA region	

	Prasophyllum petilum/Tarengo Leek Orchid	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Swainsona recta/ Small Purple-pea	Spp	IBRA region	
	Swainsona recta/Small Purple-pea	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Swainsona sericea/ Silky Swainson-pea	Spp	IBRA region	
	Swainsona sericea/Silky Swainson-pea	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Synemon plana/ Golden Sun Moth	Spp	IBRA region	
	Synemon plana/Golden Sun Moth	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Thesium australe/ Austral Toadflax	Spp	IBRA region	
	Thesium australe/Austral Toadflax	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/21/00029445	Proposal Name 6699 Humelink Assessment - Murrumbateman	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 6	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Ammobium craspedioides Yass Daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Aprasia parapulchella Pink-tailed Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Caladenia concolor Crimson Spider Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☑ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Calyptorhynchus lathami Glossy Black-Cockatoo	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cercartetus nanus Eastern Pygmy-possum	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☐ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Delma impar Striped Legless Lizard	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Grevillea iaspicula Wee Jasper Grevillea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haliaeetus leucogaster White-bellied Sea-Eagle	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☑ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?

Hieraaetus morphnoides Little Eagle	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☑ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Keyacris scurra Key's Matchstick Grasshopper	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☑ Mar ☐ Apr ☑ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Leucochrysum albicans subsp. tricolor Hoary Sunray	Yes (surveyed)	☑ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?
Lophoictinia isura Square-tailed Kite	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Miniopterus orianae oceanensis Large Bent-winged Bat	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Myotis macropus Southern Myotis	Yes (surveyed)	☐ Jan ☑ Feb ☑ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?

Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petauroides volans Southern Greater Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis Squirrel Glider	Yes (surveyed)	☐ Jan ☑ Feb ☐ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Polytelis swainsonii Superb Parrot	Yes (surveyed) *Survey months are outside of the months specified in Bionet.	☐ Jan ☑ Feb ☑ Mar ☑ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☑ Oct ☑ Nov ☑ Dec ☑ Survey month outside the specified months?
Pomaderris pallida Pale Pomaderris	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Prasophyllum petilum Tarengo Leek Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona recta Small Purple-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Swainsona sericea Silky Swainson-pea	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Synemon plana Golden Sun Moth	Yes (expert report)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Thesium australe Austral Toadflax	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

BAM Candidate Species Report

Common name	Scientific name	Justification in the BAM-C
Booroolong Frog	Litoria booroolongensis	Refer to BAR
Brush-tailed Phascogale	Phascogale tapoatafa	Refer to BAR
Green and Golden Bell Frog	Litoria aurea	Refer to BAR
Grey-headed Flying-fox	Pteropus poliocephalus	Refer to BAR
Purple Copper Butterfly, Bathurst Copper Butterfly	Paralucia spinifera	Refer to BAR
Regent Honeyeater	Anthochaera phrygia	Refer to BAR
Swift Parrot	Lathamus discolor	Refer to BAR
Woolly Ragwort	Senecio garlandii	Refer to BAR

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029445

Proposal Name
6699 Humelink Assessment - Murrumbateman

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
6

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits

Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion												
17	283_Veryhigh_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	78.9	78.9	0.28	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	14

18	283_Veryhigh_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	78.9	50.3	0.74	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	23

19	283_Veryhigh_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	78.9	11.9	0.21	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

20	283_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	48.2	48.2	0.11	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

21	283_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	48.2	26.9	0.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

22	283_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	48.2	17.2	0.02	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

23	283_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	61.7	61.7	0.07	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

24	283_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	61.7	34.2	0.05	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
											Subtotal	**49**
Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion												
45	351_Moderate_TCZ_100	Not a TEC	56.7	56.7	2.3	PCT Cleared - 60%	High Sensitivity to Gain			1.75		56
46	351_Moderate_ECZ_100	Not a TEC	56.7	48.5	0.31	PCT Cleared - 60%	High Sensitivity to Gain			1.75		7
47	351_Moderate_HTZ_100	Not a TEC	56.7	17.3	0.14	PCT Cleared - 60%	High Sensitivity to Gain			1.75		1

48	351_Low_TCZ_100	Not a TEC	33.6	33.6	0.41	PCT Cleared - 60%	High Sensitivity to Gain			1.75		6
49	351_Low_ECZ_100	Not a TEC	33.6	31.0	0.04	PCT Cleared - 60%	High Sensitivity to Gain			1.75		1
50	351_Verylow_TCZ_100	Not a TEC	10.8	10.8	0.33	PCT Cleared - 60%	High Sensitivity to Gain			1.75		0
											Subtotal	**71**
Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion												
59	731_High_TCZ_100	Not a TEC	69.5	69.5	0.35	PCT Cleared - 80%	High Sensitivity to Gain			2.00		12
60	731_High_ECZ_100	Not a TEC	69.5	41.9	0.1	PCT Cleared - 80%	High Sensitivity to Gain			2.00		2
61	731_High_HTZ_100	Not a TEC	69.5	4.5	0.02	PCT Cleared - 80%	High Sensitivity to Gain			2.00		1
											Subtotal	**15**
Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes												
31	322_High_TCZ_100	Not a TEC	75.7	75.7	0.39	PCT Cleared - 33%	High Sensitivity to Gain			1.50		11

32	322_High_ECZ_100	Not a TEC	75.7	52.2	0.09	PCT Cleared - 33%	High Sensitivity to Gain			1.50		2
33	322_High_HTZ_100	Not a TEC	75.7	24.0	0.03	PCT Cleared - 33%	High Sensitivity to Gain			1.50		1
34	322_Verylow_TCZ_100	Not a TEC	3.3	3.3	0.01	PCT Cleared - 33%	High Sensitivity to Gain			1.50		0
											Subtotal	**14**
Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion												
35	349_High_TCZ_100	Not a TEC	77.6	77.6	0.19	PCT Cleared - 50%	High Sensitivity to Gain			1.75		6
36	349_High_ECZ_100	Not a TEC	77.6	59.1	0.19	PCT Cleared - 50%	High Sensitivity to Gain			1.75		5
37	349_High_HTZ_100	Not a TEC	77.6	16.3	0.03	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1
38	349_Moderate_TCZ_100	Not a TEC	46.3	46.3	0.75	PCT Cleared - 50%	High Sensitivity to Gain			1.75		15
39	349_Moderate_TCZ_5-25	Not a TEC	46.3	46.3	0.69	PCT Cleared - 50%	High Sensitivity to Gain			1.75		14

40	349_Moderate_ECZ_100	Not a TEC	46.3	36.6	0.03	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1
41	349_Moderate_ECZ_5-25	Not a TEC	46.3	36.6	0.16	PCT Cleared - 50%	High Sensitivity to Gain			1.75		3
42	349_Moderate_HTZ_5-25	Not a TEC	46.3	0.2	0.07	PCT Cleared - 50%	High Sensitivity to Gain			1.75		1
43	349_Low_TCZ_100	Not a TEC	10.4	10.4	0.83	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
44	349_Low_ECZ_100	Not a TEC	10.4	8.6	0.01	PCT Cleared - 50%	High Sensitivity to Gain			1.75		0
											Subtotal	**46**
Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion												
25	287_High_TCZ_100	Not a TEC	56.5	56.5	0.42	PCT Cleared - 67%	High Sensitivity to Gain			1.75		10
26	287_High_ECZ_100	Not a TEC	56.5	45.4	0.01	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
27	287_Low_TCZ_100	Not a TEC	26.9	26.9	0.64	PCT Cleared - 67%	High Sensitivity to Gain			1.75		8

28	287_Low_TCZ_5	Not a TEC	26.9	26.9	0.01	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
29	287_Low_ECZ_100	Not a TEC	26.9	23.1	0.02	PCT Cleared - 67%	High Sensitivity to Gain			1.75		1
30	287_Verylow_TCZ_100	Not a TEC	14.3	14.3	0.14	PCT Cleared - 67%	High Sensitivity to Gain			1.75		0
											Subtotal	**21**
Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion												
8	280_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	62.1	62.1	1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	40

9	280_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	62.1	42.5	0.72	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	19

10	280_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	62.1	16.5	0.15	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

11	280_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.7	32.7	1.3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	27

12	280_Moderate_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.7	32.7	0.19	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	4

13	280_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.7	29.3	0.11	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2

14	280_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	32.7	25.7	0.04	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

15	280_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	7.9	7.9	9.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

16	280_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	5.2	5.2	0.34	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

94	280_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	7.9	3.7	0.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**95**

Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion												
51	352_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.3	38.3	0.72	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	17

52	352_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.3	32.8	0.65	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	13

53	352_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	38.3	16.1	0.06	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

54	352_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.2	18.2	0.24	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

55	352_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.2	9.9	0.14	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

56	352_Veryl ow_TCZ_1 00	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	8.2	8.2	1.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

57	352_Verylow_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	8.2	7.1	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

58	352_Veryl ow_HTZ_1 01	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	8.2	0.0	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtot al	**35**
Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion												
62	1093_Very high_TCZ_ 100	Not a TEC	76.5	76.5	1.5	PCT Cleared - 61%	High Sensitivity to Gain			1.75		50
63	1093_Very high_ECZ_ 100	Not a TEC	76.5	60.0	1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		28
64	1093_Very high_HTZ_ 100	Not a TEC	76.5	14.2	0.59	PCT Cleared - 61%	High Sensitivity to Gain			1.75		4

65	1093_High_TCZ_100	Not a TEC	83.6	83.6	2.2	PCT Cleared - 61%	High Sensitivity to Gain			1.75		81
66	1093_High_ECZ_100	Not a TEC	83.6	66.0	3.1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		88
67	1093_High_HTZ_100	Not a TEC	83.6	26.2	0.68	PCT Cleared - 61%	High Sensitivity to Gain			1.75		8
68	1093_Moderate_TCZ_100	Not a TEC	66.8	66.8	1.6	PCT Cleared - 61%	High Sensitivity to Gain			1.75		48
69	1093_Moderate_ECZ_100	Not a TEC	66.8	43.9	1.1	PCT Cleared - 61%	High Sensitivity to Gain			1.75		21
70	1093_Moderate_HTZ_100	Not a TEC	66.8	10.6	0.22	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
71	1093_Low_TCZ_100	Not a TEC	26.4	26.4	0.67	PCT Cleared - 61%	High Sensitivity to Gain			1.75		8
72	1093_Low_ECZ_100	Not a TEC	26.4	21.0	0.07	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1
73	1093_Low_HTZ_100	Not a TEC	26.4	3.0	0.06	PCT Cleared - 61%	High Sensitivity to Gain			1.75		1

74	1093_Very low_TCZ_100	Not a TEC	5.2	5.2	0.05	PCT Cleared - 61%	High Sensitivity to Gain			1.75		0
											Subtotal	**339**
Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion												
7	278_Veryl ow_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	2.2	2.2	0.05	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**0**

White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion												
1	266_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	47.8	47.8	0.25	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	7

2	266_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	47.8	26.2	0.01	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

3	266_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.3	4.3	2.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

4	266_Low_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.3	4.3	0.04	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

5	266_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.3	1.9	0.09	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0

6	266_Low_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	4.3	1.9	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	**8**

Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion												
75	1330_Very high_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	72.9	72.9	0.81	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	37

76	1330_Very high_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	72.9	48.6	1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	31

77	1330_Very high_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	72.9	27.3	0.3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	5

78	1330_High_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	79	79.0	0.36	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	18

79	1330_High_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	79	54.9	0.76	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	26

80	1330_High_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	79	22.3	0.33	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	5

81	1330_Moderate_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	57.5	57.5	2.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	87

82	1330_Moderate_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	57.5	57.5	0.22	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	8

83	1330_Moderate_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	57.5	43.7	2.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	61

84	1330_Moderate_ECZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	57.5	43.7	0.14	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	4

85	1330_Moderate_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	57.5	20.7	0.6	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	8

86	1330_Moderate_HTZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	57.5	20.7	0.06	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

87	1330_Low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	35.2	8.3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	182

88	1330_Low_TCZ_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	35.2	0.03	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1

89	1330_Low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	32.9	3.2	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	65

90	1330_Low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	35.2	5.2	0.84	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3

91	1330_Very low_TCZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.2	18.2	32.3	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	367

92	1330_Very low_ECZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.2	14.4	0.68	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	6

93	1330_Very low_HTZ_100	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.2	0.0	0.29	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	1
											Subtotal	**916**
											Total	**1609**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits

Ammobium craspedioides / Yass Daisy (Flora)									
266_Low_TCZ_100	N/A	N/A	17	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	34
266_Low_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
283_High_TCZ_100	N/A	N/A	7	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	14
283_High_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
287_High_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	10
287_Low_TCZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	8
287_Verylow_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2

352_Moderate_TCZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	8
352_Moderate_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	6
352_Low_TCZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
352_Low_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
352_Verylow_TCZ_100	N/A	N/A	10	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	20
1330_Veryhigh_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
1330_High_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2

1330_High_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
1330_Moderate_TCZ_100	N/A	N/A	8	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	16
1330_Moderate_TCZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
1330_Moderate_ECZ_5	N/A	N/A	4	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	8
1330_Moderate_HTZ_5	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
1330_Low_TCZ_100	N/A	N/A	44	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	88
1330_Low_ECZ_100	N/A	N/A	11	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	22

1330_Low_HTZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	8
1330_Verylow_TCZ_100	N/A	N/A	137	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	274
1330_Verylow_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	4
1330_Verylow_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Quantity class of viable seeds produced	Vulnerable	Vulnerable	False	2
								Subtotal	**544**
Aprasia parapulchella / Pink-tailed Legless Lizard (Fauna)									
266_Low_TCZ_100	4.3	4.3	0.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
278_Verylow_TCZ_100	2.2	2.2	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

280_High_TCZ_100	62.1	62.1	0.47	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	15
280_High_ECZ_100	42.5	42.5	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7
280_High_HTZ_100	16.5	16.5	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Moderate_TCZ_100	32.7	32.7	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
280_Moderate_TCZ_5	32.7	32.7	0.18	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
280_Low_TCZ_100	7.9	7.9	5.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	23
322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	15

322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
322_Verylow_TCZ_100	3.3	3.3	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
351_Moderate_TCZ_100	56.7	56.7	2.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	61
351_Moderate_ECZ_100	48.5	48.5	0.31	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	8
351_Moderate_HTZ_100	17.3	17.3	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
351_Low_TCZ_100	33.6	33.6	0.37	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6

351_Low_ECZ_100	31.0	31.0	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
351_Verylow_TCZ_100	10.8	10.8	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
731_High_TCZ_100	69.5	69.5	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12
731_High_ECZ_100	41.9	41.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
731_High_HTZ_100	4.5	4.5	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_High_TCZ_100	79.0	79.0	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	13
1330_High_ECZ_100	54.9	54.9	0.56	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	15

1330_High_HTZ_100	22.3	22.3	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Moderate_TCZ_100	57.5	57.5	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	38
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
1330_Moderate_ECZ_100	43.7	43.7	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25
1330_Moderate_ECZ_5	43.7	43.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Moderate_HTZ_100	20.7	20.7	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
1330_Moderate_HTZ_5	20.7	20.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

1330_Low_TCZ_100	35.2	35.2	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	54
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	32.9	32.9	1.9	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	31
1330_Low_HTZ_100	5.2	5.2	0.58	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1330_Verylow_TCZ_100	18.2	18.2	14.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	132
1330_Verylow_ECZ_100	14.4	14.4	0.37	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Verylow_HTZ_100	0.0	0.0	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

280_Low_ECZ_100	3.7	3.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**497**
Caladenia concolor / Crimson Spider Orchid (Flora)									
280_High_TCZ_100	62.1	62.1	1	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	48
280_High_ECZ_100	42.5	42.5	0.72	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	23
280_High_HTZ_100	16.5	16.5	0.15	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	2
280_Moderate_TCZ_100	32.7	32.7	1.3	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	33

280_Moderate_TCZ_5	32.7	32.7	0.19	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	5
280_Moderate_ECZ_100	29.3	29.3	0.11	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	2
280_Moderate_HTZ_100	25.7	25.7	0.04	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	1
								Subtotal	**114**
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6
266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
280_High_TCZ_100	62.1	62.1	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	32

280_High_ECZ_100	42.5	42.5	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	14
280_High_HTZ_100	16.5	16.5	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
280_Moderate_TCZ_100	32.7	32.7	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
280_Moderate_ECZ_100	29.3	29.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	11
283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	19
283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	12
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
287_Low_TCZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	15

322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
349_High_TCZ_100	77.6	77.6	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
349_High_ECZ_100	59.1	59.1	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	6
349_High_HTZ_100	16.3	16.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
351_Moderate_TCZ_100	56.7	56.7	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7
351_Moderate_ECZ_100	48.5	48.5	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3

351_Moderate_HTZ_100	17.3	17.3	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
351_Low_TCZ_100	33.6	33.6	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
352_Moderate_TCZ_100	38.3	38.3	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	7
352_Moderate_ECZ_100	32.8	32.8	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	10
352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1

731_High_TCZ_100	69.5	69.5	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	12
1093_Veryhigh_TCZ_100	76.5	76.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	46
1093_Veryhigh_ECZ_100	60.0	60.0	0.95	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	29
1093_Veryhigh_HTZ_100	14.2	14.2	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
1093_High_TCZ_100	83.6	83.6	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	92
1093_High_ECZ_100	66.0	66.0	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	100
1093_High_HTZ_100	26.2	26.2	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	9

1093_Moderate_TCZ_100	66.8	66.8	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	42
1093_Moderate_ECZ_100	43.9	43.9	0.83	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	18
1093_Moderate_HTZ_100	10.6	10.6	0.18	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1093_Low_TCZ_100	26.4	26.4	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3
1093_Low_ECZ_100	21.0	21.0	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	30
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	25

1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
1330_High_TCZ_100	79.0	79.0	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	13
1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	21
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	4
1330_Moderate_TCZ_100	57.5	57.5	0.75	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	22
1330_Moderate_ECZ_100	43.7	43.7	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	22
1330_Moderate_HTZ_100	20.7	20.7	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	3

1330_Low_TCZ_100	35.2	35.2	2.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	37
1330_Low_ECZ_100	32.9	32.9	2.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	35
1330_Low_HTZ_100	5.2	5.2	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	2
								Subtotal	**741**
Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)									
322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	15
322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

1093_Veryhigh_TCZ_100	76.5	76.5	0.82	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	31
1093_Veryhigh_ECZ_100	60.0	60.0	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	18
1093_Veryhigh_HTZ_100	14.2	14.2	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1093_High_TCZ_100	83.6	83.6	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	92
1093_High_ECZ_100	66.0	66.0	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	100
1093_High_HTZ_100	26.2	26.2	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	9
1093_Moderate_TCZ_100	66.8	66.8	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	35

1093_Moderate_ECZ_100	43.9	43.9	0.56	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	12
1093_Moderate_HTZ_100	10.6	10.6	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	30
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
1330_High_TCZ_100	79.0	79.0	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	13
1330_High_ECZ_100	54.9	54.9	0.61	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	17

1330_High_HTZ_100	22.3	22.3	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1330_Moderate_TCZ_100	57.5	57.5	0.62	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	18
1330_Moderate_ECZ_100	43.7	43.7	0.62	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	14
1330_Moderate_ECZ_5	43.7	43.7	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Moderate_HTZ_100	20.7	20.7	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
1330_Moderate_HTZ_5	20.7	20.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	35.2	35.2	2.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	36

1330_Low_ECZ_100	32.9	32.9	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	27
1330_Low_HTZ_100	5.2	5.2	0.53	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
								Subtotal	**509**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_High_TCZ_100	56.5	56.5	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10

287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_Low_TCZ_100	26.9	26.9	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_Low_ECZ_100	23.1	23.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Moderate_TCZ_100	38.3	38.3	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
352_Moderate_ECZ_100	32.8	32.8	0.54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9

352_Moderate_HTZ_100	16.1	16.1	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Low_TCZ_100	18.2	18.2	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Moderate_TCZ_100	66.8	66.8	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	27
1093_Moderate_ECZ_100	43.9	43.9	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Moderate_HTZ_100	10.6	10.6	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1330_High_ECZ_100	54.9	54.9	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1330_High_HTZ_100	22.3	22.3	0.08	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Moderate_TCZ_100	57.5	57.5	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	45
1330_Moderate_ECZ_100	43.7	43.7	0.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	15
1330_Moderate_HTZ_100	20.7	20.7	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1330_Low_TCZ_100	35.2	35.2	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

1330_Low_ECZ_100	32.9	32.9	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
1330_Low_HTZ_100	5.2	5.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**143**
Delma impar / Striped Legless Lizard (Fauna)									
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	22
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	19
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3

1330_High_TCZ_100	79.0	79.0	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	11
1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	16
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
1330_Moderate_TCZ_100	57.5	57.5	2.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	52
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	5
1330_Moderate_ECZ_100	43.7	43.7	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	36

1330_Moderate_ECZ_5	43.7	43.7	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1330_Moderate_HTZ_100	20.7	20.7	0.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	5
1330_Moderate_HTZ_5	20.7	20.7	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	35.2	35.2	8.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	109
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	32.9	32.9	3.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	39

1330_Low_HTZ_100	5.2	5.2	0.84	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1330_Verylow_TCZ_100	18.2	18.2	32.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	220
1330_Verylow_ECZ_100	14.4	14.4	0.68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	4
1330_Verylow_HTZ_100	0.0	0.0	0.29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**551**
Grevillea iaspicula / Wee Jasper Grevillea (Flora)									
266_Low_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	3

1330_Moderate_TCZ_5	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	9
1330_Moderate_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	3
1330_Low_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	9
1330_Low_ECZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	3
								Subtotal	**27**
Haliaeetus leucogaster / White-bellied Sea-Eagle (Fauna)									
283_High_TCZ_100	48.2	48.2	0.11	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	3

283_High_ECZ_100	26.9	26.9	0.1	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
283_High_HTZ_100	17.2	17.2	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	12
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
287_Low_TCZ_100	26.9	26.9	0.32	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	4

287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
287_Low_ECZ_100	23.1	23.1	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
352_Low_TCZ_100	18.2	18.2	0.02	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
1330_Moderate_TCZ_100	57.5	57.5	0.65	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	19
1330_Moderate_ECZ_100	43.7	43.7	0.1	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	2
1330_Moderate_HTZ_100	20.7	20.7	0.01	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	35.2	35.2	0.65	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	11

1330_Low_ECZ_100	32.9	32.9	0.64	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	11
1330_Low_HTZ_100	5.2	5.2	0.05	Biodiversity Conservation Act listing status	Fecundity – age at which females first produce	Vulnerable	Not Listed	False	1
								Subtotal	**73**
Hieraaetus morphnoides / Little Eagle (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_High_TCZ_100	62.1	62.1	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	24

280_High_ECZ_100	42.5	42.5	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11
280_High_HTZ_100	16.5	16.5	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	32.7	32.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
280_Moderate_ECZ_100	29.3	29.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	14

283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_Low_TCZ_100	26.9	26.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3

287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_Low_ECZ_100	23.1	23.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11
322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
349_High_TCZ_100	77.6	77.6	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

349_High_ECZ_100	59.1	59.1	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
349_High_HTZ_100	16.3	16.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
349_Moderate_TCZ_100	46.3	46.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
349_Low_TCZ_100	10.4	10.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
351_Moderate_TCZ_100	56.7	56.7	2.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	48
351_Moderate_ECZ_100	48.5	48.5	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	6

351_Moderate_HTZ_100	17.3	17.3	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
351_Low_TCZ_100	33.6	33.6	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
351_Low_ECZ_100	31.0	31.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Moderate_TCZ_100	38.3	38.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
352_Moderate_ECZ_100	32.8	32.8	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_High_TCZ_100	69.5	69.5	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
731_High_ECZ_100	41.9	41.9	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
731_High_HTZ_100	4.5	4.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Veryhigh_TCZ_100	76.5	76.5	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	43

1093_Veryhigh_ECZ_100	60.0	60.0	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	24
1093_Veryhigh_HTZ_100	14.2	14.2	0.59	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1093_High_TCZ_100	83.6	83.6	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	69
1093_High_ECZ_100	66.0	66.0	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	75
1093_High_HTZ_100	26.2	26.2	0.67	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7
1093_Moderate_TCZ_100	66.8	66.8	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	40

1093_Moderate_ECZ_100	43.9	43.9	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17
1093_Moderate_HTZ_100	10.6	10.6	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	26.4	26.4	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	21.0	21.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	3.0	3.0	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	22

1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1330_High_TCZ_100	79.0	79.0	0.34	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	16
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1330_Moderate_TCZ_100	57.5	57.5	2.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	52

1330_Moderate_ECZ_100	43.7	43.7	2.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	35
1330_Moderate_HTZ_100	20.7	20.7	0.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	5
1330_Low_TCZ_100	35.2	35.2	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	40
1330_Low_ECZ_100	32.9	32.9	2.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	33
1330_Low_HTZ_100	5.2	5.2	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**728**

Keyacris scurra / Key's Matchstick Grasshopper (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	6
266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
266_Low_TCZ_100	4.3	4.3	2.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	6
266_Low_TCZ_5	4.3	4.3	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
266_Low_ECZ_100	1.9	1.9	0.09	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
266_Low_ECZ_5	1.9	1.9	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
278_Verylow_TCZ_100	2.2	2.2	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1

283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	11
283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	19
283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_High_TCZ_100	48.2	48.2	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3
283_High_ECZ_100	26.9	26.9	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_High_HTZ_100	17.2	17.2	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2

283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	30
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	25
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	4
1330_High_TCZ_100	79.0	79.0	0.36	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	14
1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	21
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	4

1330_Moderate_TCZ_100	57.5	57.5	2.4	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	69
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	6
1330_Moderate_ECZ_100	43.7	43.7	2.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	48
1330_Moderate_ECZ_5	43.7	43.7	0.14	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	3
1330_Moderate_HTZ_100	20.7	20.7	0.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	6
1330_Moderate_HTZ_5	20.7	20.7	0.06	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Low_TCZ_100	35.2	35.2	8.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	146

1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
1330_Low_ECZ_100	32.9	32.9	3.2	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	52
1330_Low_HTZ_100	5.2	5.2	0.84	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	2
1330_Verylow_TCZ_100	18.2	18.2	32.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	294
1330_Verylow_ECZ_100	14.4	14.4	0.68	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	5
1330_Verylow_HTZ_100	0.0	0.0	0.29	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Endangered	Not Listed	False	1
								Subtotal	**788**

Leucochrysum albicans subsp. tricolor / Hoary Sunray (Flora)									
349_Moderate_TCZ_100	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18
349_Low_TCZ_100	N/A	N/A	22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	44
351_Moderate_TCZ_100	N/A	N/A	61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	122
351_Moderate_ECZ_100	N/A	N/A	11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
351_Moderate_HTZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10

351_Low_TCZ_100	N/A	N/A	23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	46
351_Low_ECZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
351_Verylow_TCZ_100	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18
352_Moderate_TCZ_100	N/A	N/A	54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	108
352_Moderate_ECZ_100	N/A	N/A	36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	72
352_Moderate_HTZ_100	N/A	N/A	6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12

352_Low_TCZ_100	N/A	N/A	10	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	20
352_Low_ECZ_100	N/A	N/A	13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
352_Verylow_TCZ_100	N/A	N/A	98	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	196
352_Verylow_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
352_Verylow_HTZ_101	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
731_High_ECZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6

731_High_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1093_Veryhigh_TCZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1093_Veryhigh_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1093_High_TCZ_100	N/A	N/A	11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
1093_High_ECZ_100	N/A	N/A	17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	34
1093_High_HTZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8

1093_Moderate_TCZ_100	N/A	N/A	36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	72
1093_Moderate_ECZ_100	N/A	N/A	23	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	46
1093_Moderate_HTZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
1093_Low_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1093_Low_ECZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1093_Verylow_TCZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8

1330_Veryhigh_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
1330_Veryhigh_ECZ_100	N/A	N/A	11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
1330_Veryhigh_HTZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10
1330_High_TCZ_100	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_High_ECZ_100	N/A	N/A	49	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	98
1330_High_HTZ_100	N/A	N/A	14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	28

1330_Moderate_TCZ_100	N/A	N/A	100	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	200
1330_Moderate_TCZ_5	N/A	N/A	20	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	40
1330_Moderate_ECZ_100	N/A	N/A	58	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	116
1330_Moderate_ECZ_5	N/A	N/A	11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	22
1330_Moderate_HTZ_100	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18
1330_Moderate_HTZ_5	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10

1330_Low_TCZ_100	N/A	N/A	389	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	778
1330_Low_TCZ_5	N/A	N/A	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_Low_ECZ_100	N/A	N/A	127	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	254
1330_Low_HTZ_100	N/A	N/A	56	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	112
1330_Verylow_TCZ_100	N/A	N/A	1647	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3294
1330_Verylow_ECZ_100	N/A	N/A	29	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	58

1330_Verylow_HTZ_100	N/A	N/A	19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	38
								Subtotal	**6074**
Lophoictinia isura / Square-tailed Kite (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_High_TCZ_100	62.1	62.1	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	24
280_High_ECZ_100	42.5	42.5	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11

280_High_HTZ_100	16.5	16.5	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	32.7	32.7	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	4
280_Moderate_ECZ_100	29.3	29.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8
283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	14
283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
287_Low_TCZ_100	26.9	26.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

287_Low_ECZ_100	23.1	23.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	11
322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Moderate_TCZ_100	38.3	38.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	10
352_Moderate_ECZ_100	32.8	32.8	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	8

352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
731_High_TCZ_100	69.5	69.5	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
731_High_ECZ_100	41.9	41.9	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
731_High_HTZ_100	4.5	4.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1093_Veryhigh_TCZ_100	76.5	76.5	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	43
1093_Veryhigh_ECZ_100	60.0	60.0	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	24
1093_Veryhigh_HTZ_100	14.2	14.2	0.59	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	3
1093_High_TCZ_100	83.6	83.6	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	69
1093_High_ECZ_100	66.0	66.0	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	75
1093_High_HTZ_100	26.2	26.2	0.67	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	7

1093_Moderate_TCZ_100	66.8	66.8	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	40
1093_Moderate_ECZ_100	43.9	43.9	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	17
1093_Moderate_HTZ_100	10.6	10.6	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_TCZ_100	26.4	26.4	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	2
1093_Low_ECZ_100	21.0	21.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	3.0	3.0	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

								Subtotal	**418**
Miniopterus orianae oceanensis / Large Bent-winged Bat (Fauna)									
351_Moderate_ECZ_100	48.5	48.5	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	True	3
351_Moderate_HTZ_100	17.3	17.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	True	1
								Subtotal	**4**
Myotis macropus / Southern Myotis (Fauna)									
349_Moderate_TCZ_100	46.3	46.3	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
349_Moderate_TCZ_5-25	46.3	46.3	0.41	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9
349_Low_TCZ_100	10.4	10.4	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	5

1330_Veryhigh_ECZ_100	48.6	48.6	0.54	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
1330_Veryhigh_HTZ_100	27.3	27.3	0.11	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_High_TCZ_100	79.0	79.0	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
1330_High_ECZ_100	54.9	54.9	0.57	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16
1330_High_HTZ_100	22.3	22.3	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Moderate_TCZ_100	57.5	57.5	1.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	48
1330_Moderate_ECZ_100	43.7	43.7	0.75	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16

1330_Moderate_ECZ_5	43.7	43.7	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Moderate_HTZ_100	20.7	20.7	0.23	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Moderate_HTZ_5	20.7	20.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	35.2	35.2	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	23
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_ECZ_100	32.9	32.9	1.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	25
1330_Low_HTZ_100	5.2	5.2	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**180**

Ninox strenua / Powerful Owl (Fauna)									
283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	11
283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	19
283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

287_Low_TCZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
351_Moderate_TCZ_100	56.7	56.7	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
351_Moderate_ECZ_100	48.5	48.5	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
351_Moderate_HTZ_100	17.3	17.3	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
351_Low_TCZ_100	33.6	33.6	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
352_Moderate_TCZ_100	38.3	38.3	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7

352_Moderate_ECZ_100	32.8	32.8	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
731_High_TCZ_100	69.5	69.5	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
1093_Veryhigh_TCZ_100	76.5	76.5	1.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	46
1093_Veryhigh_ECZ_100	60.0	60.0	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	32

1093_Veryhigh_HTZ_100	14.2	14.2	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1093_High_TCZ_100	83.6	83.6	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	92
1093_High_ECZ_100	66.0	66.0	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	100
1093_High_HTZ_100	26.2	26.2	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	9
1093_Moderate_TCZ_100	66.8	66.8	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	42
1093_Moderate_ECZ_100	43.9	43.9	0.99	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	22
1093_Moderate_HTZ_100	10.6	10.6	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

1093_Low_TCZ_100	26.4	26.4	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
1093_Low_ECZ_100	21.0	21.0	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1093_Low_HTZ_100	3.0	3.0	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	30
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	25
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1330_High_TCZ_100	79.0	79.0	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13

1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	21
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	4
1330_Moderate_TCZ_100	57.5	57.5	0.75	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	22
1330_Moderate_ECZ_100	43.7	43.7	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	22
1330_Moderate_HTZ_100	20.7	20.7	0.29	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
1330_Low_TCZ_100	35.2	35.2	2.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	41
1330_Low_ECZ_100	32.9	32.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	37

1330_Low_HTZ_100	5.2	5.2	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
								Subtotal	**672**
Petauroides volans / Southern Greater Glider (Fauna)									
351_Moderate_TCZ_100	56.7	56.7	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	3
351_Moderate_ECZ_100	48.5	48.5	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
1330_High_TCZ_100	79.0	79.0	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	13
1330_High_ECZ_100	54.9	54.9	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	16
1330_High_HTZ_100	22.3	22.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	2

1330_Low_TCZ_100	35.2	35.2	0.25	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	4
1330_Low_ECZ_100	32.9	32.9	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	3
1330_Low_HTZ_100	5.2	5.2	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	1
								Subtotal	**43**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	6
266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
280_High_TCZ_100	62.1	62.1	0.65	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	20

280_High_ECZ_100	42.5	42.5	0.39	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	8
280_High_HTZ_100	16.5	16.5	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_High_TCZ_100	48.2	48.2	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_High_ECZ_100	26.9	26.9	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_High_HTZ_100	17.2	17.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
287_Low_TCZ_100	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	15
322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

351_Moderate_TCZ_100	56.7	56.7	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
351_Moderate_ECZ_100	48.5	48.5	0.12	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	3
351_Moderate_HTZ_100	17.3	17.3	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
351_Low_TCZ_100	33.6	33.6	0.13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
352_Moderate_TCZ_100	38.3	38.3	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	7
352_Moderate_ECZ_100	32.8	32.8	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10
352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1

352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_High_TCZ_100	79.0	79.0	0.32	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	13
1330_High_ECZ_100	54.9	54.9	0.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	16
1330_High_HTZ_100	22.3	22.3	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Moderate_TCZ_100	57.5	57.5	0.66	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	19
1330_Moderate_ECZ_100	43.7	43.7	0.44	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	10

1330_Moderate_ECZ_5	43.7	43.7	0.02	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Moderate_HTZ_100	20.7	20.7	0.17	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
1330_Moderate_HTZ_5	20.7	20.7	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	35.2	35.2	2.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	48
1330_Low_ECZ_100	32.9	32.9	2.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	36
1330_Low_HTZ_100	5.2	5.2	0.64	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	2
								Subtotal	**259**

Phascolarctos cinereus / Koala (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_TCZ_5	4.3	4.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_ECZ_5	1.9	1.9	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
280_High_TCZ_100	62.1	62.1	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	32

280_High_ECZ_100	42.5	42.5	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	15
280_High_HTZ_100	16.5	16.5	0.15	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
280_Moderate_TCZ_100	32.7	32.7	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
280_Moderate_TCZ_5	32.7	32.7	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
280_Moderate_ECZ_100	29.3	29.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11

283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	19
283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
283_High_TCZ_100	48.2	48.2	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
283_High_ECZ_100	26.9	26.9	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
283_High_HTZ_100	17.2	17.2	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2

283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
287_High_TCZ_100	56.5	56.5	0.42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
287_High_ECZ_100	45.4	45.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
287_Low_TCZ_100	26.9	26.9	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
287_Low_TCZ_5	26.9	26.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
287_Low_ECZ_100	23.1	23.1	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	15
322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
349_High_TCZ_100	77.6	77.6	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	7
349_High_ECZ_100	59.1	59.1	0.19	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
349_High_HTZ_100	16.3	16.3	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

349_Moderate_TCZ_100	46.3	46.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
349_Moderate_TCZ_5-25	46.3	46.3	0.69	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	16
349_Moderate_ECZ_5-25	36.6	36.6	0.16	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
349_Moderate_HTZ_5-25	0.2	0.2	0.07	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
349_Low_TCZ_100	10.4	10.4	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
351_Moderate_TCZ_100	56.7	56.7	2.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	64

351_Moderate_ECZ_100	48.5	48.5	0.31	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
351_Moderate_HTZ_100	17.3	17.3	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
351_Low_TCZ_100	33.6	33.6	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
351_Low_ECZ_100	31.0	31.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
352_Moderate_TCZ_100	38.3	38.3	0.72	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
352_Moderate_ECZ_100	32.8	32.8	0.65	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11

352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
731_High_TCZ_100	69.5	69.5	0.35	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
731_High_ECZ_100	41.9	41.9	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
731_High_HTZ_100	4.5	4.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1093_Veryhigh_TCZ_100	76.5	76.5	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	57
1093_Veryhigh_ECZ_100	60.0	60.0	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	32
1093_Veryhigh_HTZ_100	14.2	14.2	0.59	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1093_High_TCZ_100	83.6	83.6	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	92
1093_High_ECZ_100	66.0	66.0	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	100
1093_High_HTZ_100	26.2	26.2	0.67	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	9

1093_Moderate_TCZ_100	66.8	66.8	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	54
1093_Moderate_ECZ_100	43.9	43.9	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	23
1093_Moderate_HTZ_100	10.6	10.6	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Low_TCZ_100	26.4	26.4	0.24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1093_Low_ECZ_100	21.0	21.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1093_Low_HTZ_100	3.0	3.0	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	30
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	25
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
1330_High_TCZ_100	79.0	79.0	0.36	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	21
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4

1330_Moderate_TCZ_100	57.5	57.5	2.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	69
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_Moderate_ECZ_100	43.7	43.7	2.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	48
1330_Moderate_ECZ_5	43.7	43.7	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1330_Moderate_HTZ_100	20.7	20.7	0.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_Moderate_HTZ_5	20.7	20.7	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_Low_TCZ_100	35.2	35.2	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	71
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Low_ECZ_100	32.9	32.9	3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	50
1330_Low_HTZ_100	5.2	5.2	0.71	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
								Subtotal	**1032**
Polytelis swainsonii / Superb Parrot (Fauna)									
266_Moderate_TCZ_100	47.8	47.8	0.25	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6

266_Moderate_ECZ_100	26.2	26.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_High_TCZ_100	62.1	62.1	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	32
280_High_ECZ_100	42.5	42.5	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	14
280_High_HTZ_100	16.5	16.5	0.15	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
280_Moderate_TCZ_100	32.7	32.7	0.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
280_Moderate_ECZ_100	29.3	29.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_Veryhigh_TCZ_100	78.9	78.9	0.28	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	11

283_Veryhigh_ECZ_100	50.3	50.3	0.74	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	19
283_Veryhigh_HTZ_100	11.9	11.9	0.21	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_High_TCZ_100	48.2	48.2	0.04	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_High_ECZ_100	26.9	26.9	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_High_HTZ_100	17.2	17.2	0.01	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1

322_High_TCZ_100	75.7	75.7	0.39	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	15
322_High_ECZ_100	52.2	52.2	0.09	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
322_High_HTZ_100	24.0	24.0	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
349_High_TCZ_100	77.6	77.6	0.18	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7
349_High_ECZ_100	59.1	59.1	0.19	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
349_High_HTZ_100	16.3	16.3	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
352_Moderate_TCZ_100	38.3	38.3	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	7

352_Moderate_ECZ_100	32.8	32.8	0.59	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	10
352_Moderate_HTZ_100	16.1	16.1	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
352_Low_TCZ_100	18.2	18.2	0.24	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
352_Low_ECZ_100	9.9	9.9	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.81	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	30
1330_Veryhigh_ECZ_100	48.6	48.6	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	25
1330_Veryhigh_HTZ_100	27.3	27.3	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4

1330_High_TCZ_100	79.0	79.0	0.35	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	14
1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	21
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	4
1330_Moderate_TCZ_100	57.5	57.5	0.75	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	22
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	6
1330_Moderate_ECZ_100	43.7	43.7	1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	23
1330_Moderate_ECZ_5	43.7	43.7	0.14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3

1330_Moderate_HTZ_100	20.7	20.7	0.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	3
1330_Moderate_HTZ_5	20.7	20.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	35.2	35.2	2.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	49
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	32.9	32.9	2.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	38
1330_Low_HTZ_100	5.2	5.2	0.67	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Vulnerable	False	2
								Subtotal	**394**

Pomaderris pallida / Pale Pomaderris (Flora)									
1093_Veryhigh_TCZ_100	76.5	76.5	0.01	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	1
1093_Veryhigh_ECZ_100	60.0	60.0	0.01	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	1
1093_High_TCZ_100	83.6	83.6	0.11	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	7
1093_High_ECZ_100	66.0	66.0	0.18	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	9
1093_High_HTZ_100	26.2	26.2	0.04	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	1
1093_Moderate_TCZ_100	66.8	66.8	0.37	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	19
1093_Moderate_ECZ_100	43.9	43.9	0.04	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	1

1093_Moderate_HTZ_100	10.6	10.6	0.01	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	True	1
								Subtotal	**40**
Prasophyllum petilum / Tarengo Leek Orchid (Flora)									
1330_Veryhigh_TCZ_100	72.9	72.9	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Veryhigh_ECZ_100	48.6	48.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1330_Veryhigh_HTZ_100	27.3	27.3	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_High_TCZ_100	79.0	79.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_High_ECZ_100	54.9	54.9	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_High_HTZ_100	22.3	22.3	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Moderate_TCZ_100	57.5	57.5	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	31
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_Moderate_ECZ_100	43.7	43.7	0.62	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
1330_Moderate_ECZ_5	43.7	43.7	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3

1330_Moderate_HTZ_100	20.7	20.7	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Moderate_HTZ_5	20.7	20.7	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Low_TCZ_100	35.2	35.2	6.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	113
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Low_ECZ_100	32.9	32.9	1.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	25
1330_Low_HTZ_100	5.2	5.2	0.55	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

								Subtotal	210
Swainsona recta / Small Purple-pea (Flora)									
266_Moderate_TCZ_100	47.8	47.8	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_TCZ_100	4.3	4.3	2.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
266_Low_TCZ_5	4.3	4.3	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_ECZ_100	1.9	1.9	0.09	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
266_Low_ECZ_5	1.9	1.9	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_Veryhigh_TCZ_100	72.9	72.9	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Veryhigh_ECZ_100	48.6	48.6	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1330_Veryhigh_HTZ_100	27.3	27.3	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_High_TCZ_100	79.0	79.0	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_High_ECZ_100	54.9	54.9	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_High_HTZ_100	22.3	22.3	0.11	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_Moderate_TCZ_100	57.5	57.5	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	36
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	6
1330_Moderate_ECZ_100	43.7	43.7	0.63	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	14
1330_Moderate_ECZ_5	43.7	43.7	0.12	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3
1330_Moderate_HTZ_100	20.7	20.7	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Moderate_HTZ_5	20.7	20.7	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

1330_Low_TCZ_100	35.2	35.2	6.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	116
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1330_Low_ECZ_100	32.9	32.9	1.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26
1330_Low_HTZ_100	5.2	5.2	0.62	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
1330_Verylow_TCZ_100	18.2	18.2	20.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	188
1330_Verylow_ECZ_100	14.4	14.4	0.34	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2

1330_Verylow_HTZ_100	0.0	0.0	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**421**
Swainsona sericea / Silky Swainson-pea (Flora)									
266_Moderate_TCZ_100	47.8	47.8	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
266_Low_TCZ_100	4.3	4.3	2.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	6
266_Low_TCZ_5	4.3	4.3	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
266_Low_ECZ_100	1.9	1.9	0.09	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
266_Low_ECZ_5	1.9	1.9	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

280_High_TCZ_100	62.1	62.1	0.39	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	12
280_High_ECZ_100	42.5	42.5	0.32	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	7
280_High_HTZ_100	16.5	16.5	0.06	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Moderate_TCZ_100	32.7	32.7	0.83	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	14
280_Moderate_TCZ_5	32.7	32.7	0.19	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
280_Moderate_ECZ_100	29.3	29.3	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
280_Moderate_HTZ_100	25.7	25.7	0.04	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

280_Low_TCZ_100	7.9	7.9	8.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	33
280_Verylow_TCZ_100	5.2	5.2	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
283_Veryhigh_TCZ_100	78.9	78.9	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
283_High_TCZ_100	48.2	48.2	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
283_High_ECZ_100	26.9	26.9	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
283_High_HTZ_100	17.2	17.2	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
283_Moderate_TCZ_100	61.7	61.7	0.07	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2

283_Moderate_ECZ_100	34.2	34.2	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Veryhigh_TCZ_100	72.9	72.9	0.06	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
1330_Veryhigh_ECZ_100	48.6	48.6	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
1330_Veryhigh_HTZ_100	27.3	27.3	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_High_TCZ_100	79.0	79.0	0.02	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_High_ECZ_100	54.9	54.9	0.21	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	6
1330_High_HTZ_100	22.3	22.3	0.11	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1

1330_Moderate_TCZ_100	57.5	57.5	1.3	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	36
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	6
1330_Moderate_ECZ_100	43.7	43.7	0.63	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	14
1330_Moderate_ECZ_5	43.7	43.7	0.12	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	3
1330_Moderate_HTZ_100	20.7	20.7	0.1	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Moderate_HTZ_5	20.7	20.7	0.05	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Low_TCZ_100	35.2	35.2	6.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	116

1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
1330_Low_ECZ_100	32.9	32.9	1.6	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	26
1330_Low_HTZ_100	5.2	5.2	0.62	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
1330_Verylow_TCZ_100	18.2	18.2	20.7	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	188
1330_Verylow_ECZ_100	14.4	14.4	0.34	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	2
1330_Verylow_HTZ_100	0.0	0.0	0.21	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
280_Low_ECZ_100	3.7	3.7	0.01	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Vulnerable	Not Listed	False	1
								Subtotal	**505**

Synemon plana / Golden Sun Moth (Fauna)									
280_High_TCZ_100	62.1	62.1	0.22	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	5
280_High_HTZ_100	16.5	16.5	0.04	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
280_Moderate_TCZ_100	32.7	32.7	0.58	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	7
280_Moderate_TCZ_5	32.7	32.7	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

280_Moderate_ECZ_100	29.3	29.3	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
280_Moderate_HTZ_100	25.7	25.7	0.04	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
280_Low_TCZ_100	7.9	7.9	4.1	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	12
280_Verylow_TCZ_100	5.2	5.2	0.19	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
287_High_TCZ_100	56.5	56.5	0.42	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	9

287_High_ECZ_100	45.4	45.4	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
287_Low_TCZ_100	26.9	26.9	0.27	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
349_Moderate_TCZ_5-25	46.3	46.3	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
349_Low_ECZ_100	8.6	8.6	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
352_Verylow_TCZ_100	8.2	8.2	0.75	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2

352_Verylow_ECZ_100	7.1	7.1	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
352_Verylow_HTZ_101	0.0	0.0	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	0
1093_Low_TCZ_100	26.4	26.4	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1093_Low_ECZ_100	21.0	21.0	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1093_Verylow_TCZ_100	5.2	5.2	0.05	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

1330_Moderate_TCZ_100	57.5	57.5	0.17	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	4
1330_Low_TCZ_100	35.2	35.2	0.25	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
1330_Low_ECZ_100	32.9	32.9	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Verylow_TCZ_100	18.2	18.2	8.5	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	58
1330_Verylow_ECZ_100	14.4	14.4	0.19	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

1330_Verylow_HTZ_100	0.0	0.0	0.03	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**118**
Thesium australe / Austral Toadflax (Flora)									
1330_Veryhigh_TCZ_100	72.9	72.9	0.75	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	20
1330_Veryhigh_ECZ_100	48.6	48.6	0.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	9
1330_Veryhigh_HTZ_100	27.3	27.3	0.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1330_High_TCZ_100	79.0	79.0	0.34	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	10

1330_High_ECZ_100	54.9	54.9	0.76	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	16
1330_High_HTZ_100	22.3	22.3	0.33	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
1330_Moderate_TCZ_100	57.5	57.5	1.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	38
1330_Moderate_TCZ_5	57.5	57.5	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	5
1330_Moderate_ECZ_100	43.7	43.7	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	22
1330_Moderate_ECZ_5	43.7	43.7	0.13	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2

1330_Moderate_HTZ_100	20.7	20.7	0.37	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
1330_Moderate_HTZ_5	20.7	20.7	0.05	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_TCZ_100	35.2	35.2	5.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	75
1330_Low_TCZ_5	35.2	35.2	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1330_Low_ECZ_100	32.9	32.9	2.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	30
1330_Low_HTZ_100	5.2	5.2	0.68	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1

1330_Verylow_TCZ_100	18.2	18.2	24.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	170
1330_Verylow_ECZ_100	14.4	14.4	0.57	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	3
1330_Verylow_HTZ_100	0.0	0.0	0.27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
								Subtotal	**412**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029445	6699 Humelink Assessment - Murrumbateman	22/06/2023
Assessor Name	Report Created	BAM Data version *
Simon Tweed	18/08/2023	61
Assessor Number	Assessment Type	BAM Case Status
BAAS17040	Major Projects	Finalised
Assessment Revision		Date Finalised
6		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Black Falcon	Falco subniger	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Diamond Firetail	Stagonopleura guttata	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Diamond Firetail	Stagonopleura guttata	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Dusky Woodswallow	Artamus cyanopterus cyanopterus	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Flame Robin	Petroica phoenicea	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Gang-gang Cockatoo	Callocephalon fimbriatum	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion

Gang-gang Cockatoo	Callocephalon fimbriatum	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Glossy Black-Cockatoo	Calyptorhynchus lathami	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Glossy Black-Cockatoo	Calyptorhynchus lathami	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Greater Broad-nosed Bat	Scoteanax rueppellii	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Grey-headed Flying-fox	Pteropus poliocephalus	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion

Large Bent-winged Bat	Miniopterus orianae oceanensis	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Eagle	Hieraaetus morphnoides	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Little Eagle	Hieraaetus morphnoides	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Lorikeet	Glossopsitta pusilla	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Little Whip Snake	Suta flagellum	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Painted Honeyeater	Grantiella picta	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Painted Honeyeater	Grantiella picta	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Powerful Owl	Ninox strenua	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Powerful Owl	Ninox strenua	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Regent Honeyeater	Anthochaera phrygia	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Rosenberg's Goanna	Varanus rosenbergi	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Rosenberg's Goanna	Varanus rosenbergi	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Scarlet Robin	Petroica boodang	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Scarlet Robin	Petroica boodang	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Speckled Warbler	Chthonicola sagittata	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Speckled Warbler	Chthonicola sagittata	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Spotted Harrier	Circus assimilis	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
Spotted-tailed Quoll	Dasyurus maculatus	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Spotted-tailed Quoll	Dasyurus maculatus	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Square-tailed Kite	Lophoictinia isura	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
Superb Parrot	Polytelis swainsonii	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion

Superb Parrot	Polytelis swainsonii	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Swift Parrot	Lathamus discolor	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Swift Parrot	Lathamus discolor	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Turquoise Parrot	Neophema pulchella	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion

Turquoise Parrot	Neophema pulchella	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Varied Sittella	Daphoenositta chrysoptera	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

White-bellied Sea-Eagle	Haliaeetus leucogaster	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
White-throated Needletail	Hirundapus caudacutus	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion
		287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion

White-throated Needletail	Hirundapus caudacutus	322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Yellow-bellied Glider	Petaurus australis	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
		280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion
		283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion

Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion
		322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes
		351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
		352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
		731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion
		1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion
		1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029445

Assessment name
6699 Humelink Assessment - Murrumbateman

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

Assessment Type
Major Projects

BAM Case Status
Finalised

Assessment Revision
6

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	266_Moderate_TCZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.25	1	

2	266_Moderate_ECZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.01	1	
3	266_Low_TCZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_TCZ_100	2.59	2	
4	266_Low_TCZ_5	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_TCZ_5	0.04	1	
5	266_Low_ECZ_100	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.09	1	
6	266_Low_ECZ_5	266-White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low_ECZ_5	0.03	1	
7	278_Verylow_TCZ_100	278-Riparian Blakely's Red Gum - box - shrub - sedge - grass tall open forest of the central NSW South Western Slopes Bioregion	Verylow_TCZ_100	0.05	1	
8	280_High_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_TCZ_100	1.03	1	

9	280_High_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_ECZ_100	0.72	1	
10	280_High_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	High_HTZ_100	0.15	1	
11	280_Moderate_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	1.34	1	
12	280_Moderate_TCZ_5	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_TCZ_5	0.19	1	
13	280_Moderate_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.11	1	
14	280_Moderate_HTZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Moderate_HTZ_100	0.04	1	

15	280_Low_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_TCZ_100	9.6	3	
16	280_Verylow_TCZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Verylow_TCZ_100	0.34	1	
17	283_Veryhigh_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Veryhigh_TCZ_100	0.28	1	
18	283_Veryhigh_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Veryhigh_ECZ_100	0.74	1	
19	283_Veryhigh_HTZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Veryhigh_HTZ_100	0.21	1	
20	283_High_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	High_TCZ_100	0.11	1	

21	283_High_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	High_ECZ_100	0.1	1	
22	283_High_HTZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	High_HTZ_100	0.02	1	
23	283_Moderate_TCZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_TCZ_100	0.07	1	
24	283_Moderate_ECZ_100	283-Apple Box - Blakely's Red Gum moist valley and footslopes grass-forb open forest of the NSW South Western Slopes Bioregion	Moderate_ECZ_100	0.05	1	
25	287_High_TCZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	High_TCZ_100	0.42	1	
26	287_High_ECZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	High_ECZ_100	0.01	1	

27	287_Low_TCZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Low_TCZ_100	0.64	1	
28	287_Low_TCZ_5	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Low_TCZ_5	0.01	1	
29	287_Low_ECZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Low_ECZ_100	0.02	1	
30	287_Verylow_TCZ_100	287-Long-leaved Box - Red Box - Red Stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Verylow_TCZ_100	0.14	1	
31	322_High_TCZ_100	322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	High_TCZ_100	0.39	1	
32	322_High_ECZ_100	322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	High_ECZ_100	0.09	1	

33	322_High_HTZ_100	322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	High_HTZ_100	0.03	1	
34	322_Verylow_TCZ_100	322-Inland Scribbly Gum - Red Stringybark - Black Cypress Pine hillslope shrub-tussock grass open forest on mainly sandstone ranges in the NSW central western slopes	Verylow_TCZ_100	0.01	1	
35	349_High_TCZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	High_TCZ_100	0.19	1	
36	349_High_ECZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	High_ECZ_100	0.19	1	

37	349_High_HTZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	High_HTZ_100	0.03	1	
38	349_Moderate_TCZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Moderate_TCZ_100	0.75	1	
39	349_Moderate_TCZ_5-25	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Moderate_TCZ_5-25	0.69	1	
40	349_Moderate_ECZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Moderate_ECZ_100	0.03	1	

41	349_Moderate_ECZ_5-25	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Moderate_ECZ_5-25	0.16	1	
42	349_Moderate_HTZ_5-25	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Moderate_HTZ_5-25	0.07	1	
43	349_Low_TCZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Low_TCZ_100	0.83	1	
44	349_Low_ECZ_100	349-Inland Scribbly Gum - Red Stringybark open forest on hills composed of silicous substrates in the mid-Murrumbidgee and upper Lachlan catchments mainly in the western South Eastern Highlands Bioregion	Low_ECZ_100	0.01	1	

45	351_Moderate_TCZ_100	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate_TCZ_100	2.27	2	
46	351_Moderate_ECZ_100	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate_ECZ_100	0.31	1	
47	351_Moderate_HTZ_100	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Moderate_HTZ_100	0.14	1	
48	351_Low_TCZ_100	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Low_TCZ_100	0.41	1	
49	351_Low_ECZ_100	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Low_ECZ_100	0.04	1	
50	351_Verylow_TCZ_100	351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Verylow_TCZ_100	0.33	1	

51	352_Moderate_TCZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_TCZ_100	0.72	1	
52	352_Moderate_ECZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_ECZ_100	0.65	1	
53	352_Moderate_HTZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Moderate_HTZ_100	0.06	1	
54	352_Low_TCZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_TCZ_100	0.24	1	

55	352_Low_ECZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Low_ECZ_100	0.14	1	
56	352_Verylow_TCZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_TCZ_100	1.6	1	
57	352_Verylow_ECZ_100	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_ECZ_100	0.03	1	
58	352_Verylow_HTZ_101	352-Red Stringybark - Blakely's Red Gum hillslope open forest on meta-sediments in the Yass - Boorowa - Crookwell region of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Verylow_HTZ_101	0.03	1	

59	731_High_TCZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	High_TCZ_100	0.35	1	
60	731_High_ECZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	High_ECZ_100	0.1	1	
61	731_High_HTZ_100	731-Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	High_HTZ_100	0.02	1	
62	1093_Veryhigh_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Veryhigh_TCZ_100	1.5	1	
63	1093_Veryhigh_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Veryhigh_ECZ_100	1.05	1	
64	1093_Veryhigh_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.59	1	

65	1093_High_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_TCZ_100	2.21	2	
66	1093_High_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_ECZ_100	3.06	2	
67	1093_High_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	High_HTZ_100	0.68	1	
68	1093_Moderate_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_TCZ_100	1.64	1	
69	1093_Moderate_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_ECZ_100	1.07	1	
70	1093_Moderate_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Moderate_HTZ_100	0.22	1	

71	1093_Low_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_TCZ_100	0.67	1	
72	1093_Low_ECZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_ECZ_100	0.07	1	
73	1093_Low_HTZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Low_HTZ_100	0.06	1	
74	1093_Verylow_TCZ_100	1093-Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Verylow_TCZ_100	0.05	1	
75	1330_Veryhigh_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Veryhigh_TCZ_100	0.81	1	
76	1330_Veryhigh_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Veryhigh_ECZ_100	1.03	1	
77	1330_Veryhigh_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.3	1	

78	1330_High_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	High_TCZ_100	0.36	1	
79	1330_High_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	High_ECZ_100	0.76	1	
80	1330_High_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	High_HTZ_100	0.33	1	
81	1330_Moderate_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Moderate_TCZ_100	2.41	2	
82	1330_Moderate_TCZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Moderate_TCZ_5	0.22	1	
83	1330_Moderate_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Moderate_ECZ_100	2.22	2	
84	1330_Moderate_ECZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Moderate_ECZ_5	0.14	1	
85	1330_Moderate_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Moderate_HTZ_100	0.6	1	

86	1330_Moderate_HTZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Moderate_HTZ_5	0.06	1	
87	1330_Low_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_TCZ_100	8.28	3	
88	1330_Low_TCZ_5	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_TCZ_5	0.03	1	
89	1330_Low_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_ECZ_100	3.16	2	
90	1330_Low_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Low_HTZ_100	0.84	1	
91	1330_Verylow_TCZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_TCZ_100	32.31	4	
92	1330_Verylow_ECZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_ECZ_100	0.68	1	
93	1330_Verylow_HTZ_100	1330-Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Verylow_HTZ_100	0.29	1	

94	280_Low_ECZ_100	280-Red Stringybark - Blakely's Red Gum +/- Long-leaved Box shrub/grass hill woodland of the NSW South Western Slopes Bioregion	Low_ECZ_100	0.1	1	

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029448

Proposal Name
6699 Humelink Assessment - Snowy Mountains

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Name(s)
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
4

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Calotis glandulosa / Mauve Burr-daisy
Euphrasia scabra / Rough Eyebright
Irenepharsus magicus / Elusive Cress
Litoria castanea / Yellow-spotted Tree Frog
Diuris ochroma / Pale Golden Moths
Prasophyllum bagoense / Prasophyllum bagoense
Glycine latrobeana / Clover Glycine

Pseudomys fumeus / Smoky Mouse
Pseudophryne corroboree / Southern Corroboree Frog
Tyto tenebricosa / Sooty Owl
Pterostylis oreophila / Blue-tongued Greenhood
Prasophyllum innubum / Prasophyllum innubum
Prasophyllum keltonii / Kelton's Leek Orchid

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Not a TEC	23.8	365	8	373.00

638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	30.6	377	0	377.00
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	3.6	53	3	56.00
939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	0.6	0	13	13.00
953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	86.5	1449	33	1482.00
1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	31.7	466	7	473.00
1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	0.3	0	8	8.00

300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region

Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_High_TCZ_100	Yes	146	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_High_ECZ_100	Yes	145	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_High_HTZ_100	Yes	74	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Moderate_TCZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Moderate_ECZ_100	No	2	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Moderate_HTZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Low_TCZ_100	No	2	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Low_HTZ_100	No	2	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_High_TCZ_100	Yes (including artificial)	146	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_High_ECZ_100	Yes (including artificial)	145	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_High_HTZ_100	Yes (including artificial)	74	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_Moderate_TCZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_Moderate_ECZ_100	No	2	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_Moderate_HTZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_Low_TCZ_100	No	2	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	300_Low_HTZ_100	No	2	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Montane Wet Sclerophyll Forests This includes PCT's: 638, 639, 3306, 3307, 3309, 3310, 3311	Montane Wet Sclerophyll Forests <50%	638_High_TCZ_100	Yes	138	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Montane Wet Sclerophyll Forests This includes PCT's: 638, 639, 3306, 3307, 3309, 3310, 3311	Montane Wet Sclerophyll Forests <50%	638_High_ECZ_100	Yes	149	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Montane Wet Sclerophyll Forests This includes PCT's: 638, 639, 3306, 3307, 3309, 3310, 3311	Montane Wet Sclerophyll Forests <50%	638_High_HTZ_100	Yes	90	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	638_High_TCZ_100	Yes (including artificial)	138	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	638_High_ECZ_100	Yes (including artificial)	149	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 4 or higher threat status	638_High_HTZ_100	Yes (including artificial)	90	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_High_TCZ_100	Yes	25	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_High_ECZ_100	Yes	19	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_High_HTZ_100	Yes	9	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_Low_TCZ_100	No	2	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_Low_HTZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 4 or higher threat status	679_High_TCZ_100	Yes (including artificial)	25	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 4 or higher threat status	679_High_ECZ_100	Yes (including artificial)	19	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 4 or higher threat status	679_High_HTZ_100	Yes (including artificial)	9	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Grassy Woodlands	Tier 4 or higher threat status	679_Low_TCZ_100	No	2	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Grassy Woodlands	Tier 4 or higher threat status	679_Low_HTZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions This includes PCT's: 518, 607, 637, 665, 681, 766, 788, 939, 1188, 1200, 1256, 1270, 1287, 1298, 1743, 1744, 1745, 3888, 3890, 3891, 3892, 3919, 3926, 3927, 3932, 3934, 3936, 3939, 3942, 3948, 3951, 3952	-	939_Veryhigh_TCZ_100	No	11	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions This includes PCT's: 518, 607, 637, 665, 681, 766, 788, 939, 1188, 1200, 1256, 1270, 1287, 1298, 1743, 1744, 1745, 3888, 3890, 3891, 3892, 3919, 3926, 3927, 3932, 3934, 3936, 3939, 3942, 3948, 3951, 3952	-	939_Veryhigh_ECZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions This includes PCT's: 518, 607, 637, 665, 681, 766, 788, 939, 1188, 1200, 1256, 1270, 1287, 1298, 1743, 1744, 1745, 3888, 3890, 3891, 3892, 3919, 3926, 3927, 3932, 3934, 3936, 3939, 3942, 3948, 3951, 3952	-	939_Veryhigh_HTZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Freshwater Wetlands	Tier 3 or higher threat status	939_Veryhigh_TCZ_100	No	11	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Freshwater Wetlands	Tier 3 or higher threat status	939_Veryhigh_ECZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Freshwater Wetlands	Tier 3 or higher threat status	939_Veryhigh_HTZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_TCZ_100	Yes	554	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_ECZ_100	Yes	638	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_HTZ_100	Yes	256	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_TCZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Moderate_TCZ_100	Yes	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_TCZ_100	No	28	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_ECZ_100	No	3	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_HTZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Veryhigh_TCZ_100	Yes (including artificial)	554	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Veryhigh_ECZ_100	Yes (including artificial)	638	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Veryhigh_HTZ_100	Yes (including artificial)	256	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_High_TCZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Moderate_TCZ_100	Yes (including artificial)	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Low_TCZ_100	No	28	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Low_ECZ_100	No	3	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 4 or higher threat status	953_Low_HTZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_High_TCZ_100	Yes	176	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_High_ECZ_100	Yes	242	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_High_HTZ_100	Yes	48	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_Low_TCZ_100	No	5	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_Low_ECZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_Low_HTZ_100	No	1	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grassy Woodlands	Tier 4 or higher threat status	1196_High_TCZ_100	Yes (including artificial)	176	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Grassy Woodlands	Tier 4 or higher threat status	1196_High_ECZ_100	Yes (including artificial)	242	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 4 or higher threat status	1196_High_HTZ_100	Yes (including artificial)	48	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 4 or higher threat status	1196_Low_TCZ_100	No	5	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 4 or higher threat status	1196_Low_ECZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Grassy Woodlands	Tier 4 or higher threat status	1196_Low_HTZ_100	No	1	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Temperate Montane Grasslands This includes PCT's: 569, 586, 797, 802, 803, 804, 893, 894, 895, 896, 1110, 1185, 1186, 1187, 1202, 1224, 1225, 1288, 1289, 1298, 3378, 3412, 3413, 3414, 3415, 3416	Temperate Montane Grasslands <50%	1224_High_TCZ_100	No	8	Snowy Mountains,Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Grasslands	Tier 4 or higher threat status	1224_High_TCZ_100	No	8	IBRA Region: Australian Alps, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Callocephalon fimbriatum / Gang-gang Cockatoo	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	165.8	3500.00
Calotis glandulosa / Mauve Burr-daisy	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_HTZ_100, 1224_High_TCZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	16.0	441.00
Calotis pubescens / Max Mueller's Burr-daisy	**1224_High_TCZ_100**	0.3	11.00

Cercartetus nanus / Eastern Pygmy-possum	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100**	121.9	2592.00
Cyclodomorphus praealtus / Alpine She-oak Skink	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	12.2	259.00
Diuris ochroma / Pale Golden Moths	**1224_High_TCZ_100**	0.3	16.00
Euphrasia scabra / Rough Eyebright	**679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	1.9	52.00
Glycine latrobeana / Clover Glycine	**1224_High_TCZ_100**	0.3	16.00

Hieraaetus morphnoides / Little Eagle	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	170.5	2722.00
Irenepharsus magicus / Elusive Cress	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100**	26.5	654.00

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	5993.0	11986.00
Litoria castanea / Yellow-spotted Tree Frog	**939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	0.6	19.00
Mastacomys fuscus / Broad-toothed Rat	**679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	2.2	50.00
Ninox connivens / Barking Owl	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	99.5	2166.00

Ninox strenua / Powerful Owl	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	121.9	2641.00
Petauroides volans / Southern Greater Glider	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100**	74.6	1436.00
Petaurus australis - endangered population / Yellow-bellied Glider population on the Bago Plateau	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100**	19.4	311.00
Petaurus norfolcensis / Squirrel Glider	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	61.2	1415.00

Petroica rodinogaster / Pink Robin	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	169.9	3614.00
Phascogale tapoatafa / Brush-tailed Phascogale	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	108.8	2329.00

Phascolarctos cinereus / Koala	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	170.5	3627.00
Prasophyllum bagoense / Prasophyllum bagoense	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100, 1224_High_TCZ_100**	31.9	959.00
Prasophyllum innubum / Prasophyllum innubum	**1224_High_TCZ_100**	0.3	16.00

Prasophyllum keltonii / Kelton's Leek Orchid	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100**	31.7	943.00
Pseudomys fumeus / Smoky Mouse	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100**	132.6	4227.00
Pseudophryne corroboree / Southern Corroboree Frog	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	22.2	625.00

Pterostylis alpina / Alpine Greenhood	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	24.4	464.00
Pterostylis foliata / Slender Greenhood	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	36.5	642.00
Pterostylis oreophila / Blue-tongued Greenhood	**939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	0.6	19.00
Rutidosis leiolepis / Monaro Golden Daisy	**1224_High_TCZ_100**	350.0	700.00

Thelymitra alpicola / Alpine Sun-orchid	**939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	0.6	11.00
Thesium australe / Austral Toadflax	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100, 1224_High_TCZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	23.7	339.00
Tyto novaehollandiae / Masked Owl	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	99.5	2166.00
Tyto tenebricosa / Sooty Owl	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100**	21.2	511.00

Xerochrysum palustre / Swamp Everlasting	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100, 939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	1.5	30.00

Credit Retirement Options

Like-for-like options

Callocephalon fimbriatum/ Gang-gang Cockatoo	Spp	IBRA region	
	Callocephalon fimbriatum/Gang-gang Cockatoo	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Calotis glandulosa/ Mauve Burr-daisy	Spp		IBRA region
	Calotis glandulosa/Mauve Burr-daisy		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Calotis pubescens/ Max Mueller's Burr-daisy	Spp		IBRA region
	Calotis pubescens/Max Mueller's Burr-daisy		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cercartetus nanus/ Eastern Pygmy-possum	Spp	IBRA region	
	Cercartetus nanus/Eastern Pygmy-possum	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Cyclodomorphus praealtus/ Alpine She-oak Skink	Spp	IBRA region	
	Cyclodomorphus praealtus/Alpine She-oak Skink	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Diuris ochroma/ Pale Golden Moths	Spp	IBRA region	
	Diuris ochroma/Pale Golden Moths	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Euphrasia scabra/ Rough Eyebright	Spp	IBRA region	
	Euphrasia scabra/Rough Eyebright	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Glycine latrobeana/ Clover Glycine	Spp	IBRA region
	Glycine latrobeana/Clover Glycine *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW

Hieraaetus morphnoides/ Little Eagle	Spp		IBRA region
	Hieraaetus morphnoides/Little Eagle		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Irenepharsus magicus/ Elusive Cress	Spp	IBRA region	
	Irenepharsus magicus/Elusive Cress	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Leucochrysum albicans subsp. tricolor/ Hoary Sunray	Spp	IBRA region	
	Leucochrysum albicans subsp. tricolor/Hoary Sunray	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Flora	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Litoria castanea/ Yellow-spotted Tree Frog	Spp	IBRA region	
	Litoria castanea/Yellow-spotted Tree Frog *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW	
Mastacomys fuscus/ Broad-toothed Rat	Spp	IBRA region	
	Mastacomys fuscus/Broad-toothed Rat	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox connivens/ Barking Owl	Spp	IBRA region	
	Ninox connivens/Barking Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Ninox strenua/ Powerful Owl	Spp	IBRA region	
	Ninox strenua/Powerful Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petauroides volans/ Southern Greater Glider	Spp	IBRA region	
	Petauroides volans/Southern Greater Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus australis - endangered population/ Yellow-bellied Glider population on the Bago Plateau	Spp	IBRA region	
	Petaurus australis - endangered population/Yellow-bellied Glider population on the Bago Plateau	Any in NSW	

Petaurus australis - endangered population/ Yellow-bellied Glider population on the Bago Plateau	**Variation options**		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered Population	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp	IBRA region	
	Petaurus norfolcensis/Squirrel Glider	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Petroica rodinogaster/ Pink Robin	Spp		IBRA region
	Petroica rodinogaster/Pink Robin		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascogale tapoatafa/ Brush-tailed Phascogale	Spp		IBRA region
	Phascogale tapoatafa/Brush-tailed Phascogale		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Phascolarctos cinereus/ Koala	Spp	IBRA region	
	Phascolarctos cinereus/Koala	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Prasophyllum bagoense/ Prasophyllum bagoense	Spp	IBRA region	
	Prasophyllum bagoense/Prasophyllum bagoense *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW	

Prasophyllum innubum/ Prasophyllum innubum	Spp	IBRA region
	Prasophyllum innubum/Prasophyllum innubum *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Prasophyllum keltonii/ Kelton's Leek Orchid	Spp	IBRA region
	Prasophyllum keltonii/Kelton's Leek Orchid *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Pseudomys fumeus/ Smoky Mouse	Spp	IBRA region
	Pseudomys fumeus/Smoky Mouse *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Pseudophryne corroboree/ Southern Corroboree Frog	Spp	IBRA region
	Pseudophryne corroboree/Southern Corroboree Frog *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*	Any in NSW
Pterostylis alpina/ Alpine Greenhood	Spp	IBRA region
	Pterostylis alpina/Alpine Greenhood	Any in NSW
	Variation options	

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pterostylis foliata/ Slender Greenhood	Spp	IBRA region	
	Pterostylis foliata/Slender Greenhood	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Pterostylis oreophila/ Blue-tongued Greenhood	Spp	IBRA region	

	Pterostylis oreophila/Blue-tongued Greenhood *Note: Variation rules do not apply for Critically Endangered species and impacts on Commonwealth listed entities that are a controlled action.*		Any in NSW
Rutidosis leiolepis/ Monaro Golden Daisy	Spp		IBRA region
	Rutidosis leiolepis/Monaro Golden Daisy		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Thelymitra alpicola/ Alpine Sun-orchid	Spp		IBRA region
	Thelymitra alpicola/Alpine Sun-orchid		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Flora	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Thesium australe/ Austral Toadflax	Spp	IBRA region	
	Thesium australe/Austral Toadflax	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tyto novaehollandiae/ Masked Owl	Spp	IBRA region	
	Tyto novaehollandiae/Masked Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing	IBRA region

		under Part 4 of the BC Act shown below	
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Tyto tenebricosa/ Sooty Owl	Spp	IBRA region	
	Tyto tenebricosa/Sooty Owl	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Xerochrysum palustre/ Swamp Everlasting	Spp	IBRA region	
	Xerochrysum palustre/Swamp Everlasting	Any in NSW	
	Variation options		

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Flora	Not Listed	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029448

Proposal Name
6699 Humelink Assessment - Snowy Mountains

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Assessor Number
BAAS17040

BAM Data version *
61

Proponent Names
Jack McGovern

Report Created
18/08/2023

BAM Case Status
Finalised

Assessment Revision
4

Assessment Type
Major Projects

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Nil		

Species
Calotis glandulosa / Mauve Burr-daisy
Euphrasia scabra / Rough Eyebright
Irenepharsus magicus / Elusive Cress

Litoria castanea / Yellow-spotted Tree Frog
Diuris ochroma / Pale Golden Moths
Prasophyllum bagoense / Prasophyllum bagoense
Glycine latrobeana / Clover Glycine
Pseudomys fumeus / Smoky Mouse
Pseudophryne corroboree / Southern Corroboree Frog
Tyto tenebricosa / Sooty Owl
Pterostylis oreophila / Blue-tongued Greenhood
Prasophyllum innubum / Prasophyllum innubum
Prasophyllum keltonii / Kelton's Leek Orchid

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

BAM Biodiversity Credit Report (Like for like)

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Not a TEC	23.8	365	8	373
638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	30.6	377	0	377
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	3.6	53	3	56
939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	0.6	0	13	13

953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	86.5	1449	33	1482
1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	31.7	466	7	473
1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	Not a TEC	0.3	0	8	8

300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_High_TCZ_100	Yes	146	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_High_ECZ_100	Yes	145	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_High_HTZ_100	Yes	74	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Moderate_TCZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Moderate_ECZ_100	No	2	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Moderate_HTZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Low_TCZ_100	No	2	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Wet Sclerophyll Forests This includes PCT's: 295, 300, 719, 792, 880, 944, 951, 1070, 1096, 1097, 1197, 1319, 3198, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3302, 3303, 3304, 3305	Southern Tableland Wet Sclerophyll Forests <50%	300_Low_HTZ_100	No	2	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Montane Wet Sclerophyll Forests This includes PCT's: 638, 639, 3306, 3307, 3309, 3310, 3311	Montane Wet Sclerophyll Forests <50%	638_High_TCZ_100	Yes	138	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Montane Wet Sclerophyll Forests This includes PCT's: 638, 639, 3306, 3307, 3309, 3310, 3311	Montane Wet Sclerophyll Forests <50%	638_High_ECZ_100	Yes	149	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Montane Wet Sclerophyll Forests This includes PCT's: 638, 639, 3306, 3307, 3309, 3310, 3311	Montane Wet Sclerophyll Forests <50%	638_High_HTZ_100	Yes	90	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_High_TCZ_100	Yes	25	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_High_ECZ_100	Yes	19	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_High_HTZ_100	Yes	9	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_Low_TCZ_100	No	2	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	679_Low_HTZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	**Like-for-like credit retirement options**					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region

	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions This includes PCT's: 518, 607, 637, 665, 681, 766, 788, 939, 1188, 1200, 1256, 1270, 1287, 1298, 1743, 1744, 1745, 3888, 3890, 3891, 3892, 3919, 3926, 3927, 3932, 3934, 3936, 3939, 3942, 3948, 3951, 3952	-	939_Veryhigh_TCZ_100	No	11	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions This includes PCT's: 518, 607, 637, 665, 681, 766, 788, 939, 1188, 1200, 1256, 1270, 1287, 1298, 1743, 1744, 1745, 3888, 3890, 3891, 3892, 3919, 3926, 3927, 3932, 3934, 3936, 3939, 3942, 3948, 3951, 3952	-	939_Veryhigh_ECZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions This includes PCT's: 518, 607, 637, 665, 681, 766, 788, 939, 1188, 1200, 1256, 1270, 1287, 1298, 1743, 1744, 1745, 3888, 3890, 3891, 3892, 3919, 3926, 3927, 3932, 3934, 3936, 3939, 3942, 3948, 3951, 3952	-	939_Veryhigh_HTZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_ TCZ_100	Yes	554	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_ECZ_100	Yes	638	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Veryhigh_HTZ_100	Yes	256	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_High_TCZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Moderate_TCZ_100	Yes	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_TCZ_100	No	28	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_ECZ_100	No	3	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 296, 299, 307, 344, 345, 349, 351, 352, 649, 652, 653, 700, 701, 727, 728, 729, 730, 888, 911, 912, 953, 957, 999, 1089, 1093, 1177, 3730, 3731, 3732, 3734, 3735, 3736, 3737, 3738, 3739, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3749, 4126	Southern Tableland Dry Sclerophyll Forests <50%	953_Low_HTZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_High_TCZ_100	Yes	176	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_High_ECZ_100	Yes	242	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_High_HTZ_100	Yes	48	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_Low_TCZ_100	No	5	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_Low_ECZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Subalpine Woodlands This includes PCT's: 644, 645, 650, 677, 679, 952, 1190, 1191, 1196, 1199, 3379, 3380, 3381, 3382, 3383, 3384, 3385	Subalpine Woodlands <50%	1196_Low_HTZ_100	No	1	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region

	Temperate Montane Grasslands This includes PCT's: 569, 586, 797, 802, 803, 804, 893, 894, 895, 896, 1110, 1185, 1186, 1187, 1202, 1224, 1225, 1288, 1289, 1298, 3378, 3412, 3413, 3414, 3415, 3416	Temperate Montane Grasslands <50%	1224_High_TCZ_100	No	8	Snowy Mountains, Bondo, Monaro, Murrumbateman, Snowy Mountains and South East Coastal Ranges. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Callocephalon fimbriatum / Gang-gang Cockatoo	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	165.8	3500.00

Calotis glandulosa / Mauve Burr-daisy	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_HTZ_100, 1224_High_TCZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	16.0	441.00
Calotis pubescens / Max Mueller's Burr-daisy	**1224_High_TCZ_100**	0.3	11.00
Cercartetus nanus / Eastern Pygmy-possum	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100**	121.9	2592.00

Cyclodomorphus praealtus / Alpine She-oak Skink	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	12.2	259.00
Diuris ochroma / Pale Golden Moths	**1224_High_TCZ_100**	0.3	16.00
Euphrasia scabra / Rough Eyebright	**679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	1.9	52.00
Glycine latrobeana / Clover Glycine	**1224_High_TCZ_100**	0.3	16.00

Hieraaetus morphnoides / Little Eagle	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	170.5	2722.00
Irenepharsus magicus / Elusive Cress	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100**	26.5	654.00

Leucochrysum albicans subsp. tricolor / Hoary Sunray	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Low_TCZ_100, 953_Low_ECZ_100, 953_Low_HTZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	5993.0	11986.00
Litoria castanea / Yellow-spotted Tree Frog	**939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	0.6	19.00
Mastacomys fuscus / Broad-toothed Rat	**679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	2.2	50.00

Ninox connivens / Barking Owl	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	99.5	2166.00
Ninox strenua / Powerful Owl	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	121.9	2641.00
Petauroides volans / Southern Greater Glider	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100**	74.6	1436.00

Petaurus australis - endangered population / Yellow-bellied Glider population on the Bago Plateau	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100**	19.4	311.00
Petaurus norfolcensis / Squirrel Glider	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	61.2	1415.00
Petroica rodinogaster / Pink Robin	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	169.9	3614.00

Phascogale tapoatafa / Brush-tailed Phascogale	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	108.8	2329.00
Phascolarctos cinereus / Koala	**300_High_TCZ_100, 300_High_ECZ_100, 300_High_HTZ_100, 638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	170.5	3627.00

Prasophyllum bagoense / Prasophyllum bagoense	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100, 1224_High_TCZ_100**	31.9	959.00
Prasophyllum innubum / Prasophyllum innubum	**1224_High_TCZ_100**	0.3	16.00
Prasophyllum keltonii / Kelton's Leek Orchid	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100**	31.7	943.00
Pseudomys fumeus / Smoky Mouse	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100, 953_Moderate_TCZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100**	132.6	4227.00

Pseudophryne corroboree / Southern Corroboree Frog	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100**	22.2	625.00
Pterostylis alpina / Alpine Greenhood	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	24.4	464.00

Pterostylis foliata / Slender Greenhood	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	36.5	642.00
Pterostylis oreophila / Blue-tongued Greenhood	**939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	0.6	19.00
Rutidosis leiolepis / Monaro Golden Daisy	**1224_High_TCZ_100**	350.0	700.00
Thelymitra alpicola / Alpine Sun-orchid	**939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	0.6	11.00

Thesium australe / Austral Toadflax	**1196_High_TCZ_100, 1196_High_ECZ_100, 1196_High_HTZ_100, 1196_Low_TCZ_100, 1196_Low_ECZ_100, 1196_Low_HTZ_100, 1224_High_TCZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100**	23.7	339.00
Tyto novaehollandiae / Masked Owl	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100, 953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 953_High_TCZ_100**	99.5	2166.00
Tyto tenebricosa / Sooty Owl	**638_High_TCZ_100, 638_High_ECZ_100, 638_High_HTZ_100**	21.2	511.00

Xerochrysum palustre / Swamp Everlasting	**953_Veryhigh_TCZ_100, 953_Veryhigh_ECZ_100, 953_Veryhigh_HTZ_100, 679_High_TCZ_100, 679_High_ECZ_100, 679_High_HTZ_100, 679_Low_TCZ_100, 679_Low_HTZ_100, 939_Veryhigh_TCZ_100, 939_Veryhigh_ECZ_100, 939_Veryhigh_HTZ_100**	1.5	30.00

Credit Retirement Options

Like-for-like credit retirement options

Callocephalon fimbriatum / Gang-gang Cockatoo	Spp	IBRA subregion
	Callocephalon fimbriatum / Gang-gang Cockatoo	Any in NSW
Calotis glandulosa / Mauve Burr-daisy	Spp	IBRA subregion
	Calotis glandulosa / Mauve Burr-daisy	Any in NSW
Calotis pubescens / Max Mueller's Burr-daisy	Spp	IBRA subregion
	Calotis pubescens / Max Mueller's Burr-daisy	Any in NSW

Cercartetus nanus / Eastern Pygmy-possum	Spp	IBRA subregion
	Cercartetus nanus / Eastern Pygmy-possum	Any in NSW
Cyclodomorphus praealtus / Alpine She-oak Skink	Spp	IBRA subregion
	Cyclodomorphus praealtus / Alpine She-oak Skink	Any in NSW
Diuris ochroma / Pale Golden Moths	Spp	IBRA subregion
	Diuris ochroma / Pale Golden Moths	Any in NSW
Euphrasia scabra / Rough Eyebright	Spp	IBRA subregion
	Euphrasia scabra / Rough Eyebright	Any in NSW
Glycine latrobeana / Clover Glycine	Spp	IBRA subregion
	Glycine latrobeana / Clover Glycine	Any in NSW
Hieraaetus morphnoides / Little Eagle	Spp	IBRA subregion
	Hieraaetus morphnoides / Little Eagle	Any in NSW
Irenepharsus magicus / Elusive Cress	Spp	IBRA subregion

	Irenepharsus magicus / Elusive Cress	Any in NSW
Leucochrysum albicans subsp. tricolor / Hoary Sunray	Spp	IBRA subregion
	Leucochrysum albicans subsp. tricolor / Hoary Sunray	Any in NSW
Litoria castanea / Yellow-spotted Tree Frog	Spp	IBRA subregion
	Litoria castanea / Yellow-spotted Tree Frog	Any in NSW
Mastacomys fuscus / Broad-toothed Rat	Spp	IBRA subregion
	Mastacomys fuscus / Broad-toothed Rat	Any in NSW
Ninox connivens / Barking Owl	Spp	IBRA subregion
	Ninox connivens / Barking Owl	Any in NSW
Ninox strenua / Powerful Owl	Spp	IBRA subregion
	Ninox strenua / Powerful Owl	Any in NSW
Petauroides volans / Southern Greater Glider	Spp	IBRA subregion
	Petauroides volans / Southern Greater Glider	Any in NSW

Petaurus australis - endangered population / Yellow-bellied Glider population on the Bago Plateau	Spp	IBRA subregion
	Petaurus australis - endangered population / Yellow-bellied Glider population on the Bago Plateau	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Petroica rodinogaster / Pink Robin	Spp	IBRA subregion
	Petroica rodinogaster / Pink Robin	Any in NSW
Phascogale tapoatafa / Brush-tailed Phascogale	Spp	IBRA subregion
	Phascogale tapoatafa / Brush-tailed Phascogale	Any in NSW
Phascolarctos cinereus / Koala	Spp	IBRA subregion
	Phascolarctos cinereus / Koala	Any in NSW
Prasophyllum bagoense / Prasophyllum bagoense	Spp	IBRA subregion
	Prasophyllum bagoense / Prasophyllum bagoense	Any in NSW

Prasophyllum innubum / Prasophyllum innubum	Spp	IBRA subregion
	Prasophyllum innubum / Prasophyllum innubum	Any in NSW
Prasophyllum keltonii / Kelton's Leek Orchid	Spp	IBRA subregion
	Prasophyllum keltonii / Kelton's Leek Orchid	Any in NSW
Pseudomys fumeus / Smoky Mouse	Spp	IBRA subregion
	Pseudomys fumeus / Smoky Mouse	Any in NSW
Pseudophryne corroboree / Southern Corroboree Frog	Spp	IBRA subregion
	Pseudophryne corroboree / Southern Corroboree Frog	Any in NSW
Pterostylis alpina / Alpine Greenhood	Spp	IBRA subregion
	Pterostylis alpina / Alpine Greenhood	Any in NSW
Pterostylis foliata / Slender Greenhood	Spp	IBRA subregion
	Pterostylis foliata / Slender Greenhood	Any in NSW
Pterostylis oreophila / Blue-tongued Greenhood	Spp	IBRA subregion

	Pterostylis oreophila / Blue-tongued Greenhood	Any in NSW
Rutidosis leiolepis / Monaro Golden Daisy	Spp	IBRA subregion
	Rutidosis leiolepis / Monaro Golden Daisy	Any in NSW
Thelymitra alpicola / Alpine Sun-orchid	Spp	IBRA subregion
	Thelymitra alpicola / Alpine Sun-orchid	Any in NSW
Thesium australe / Austral Toadflax	Spp	IBRA subregion
	Thesium australe / Austral Toadflax	Any in NSW
Tyto novaehollandiae / Masked Owl	Spp	IBRA subregion
	Tyto novaehollandiae / Masked Owl	Any in NSW
Tyto tenebricosa / Sooty Owl	Spp	IBRA subregion
	Tyto tenebricosa / Sooty Owl	Any in NSW
Xerochrysum palustre / Swamp Everlasting	Spp	IBRA subregion
	Xerochrysum palustre / Swamp Everlasting	Any in NSW

BAM Candidate Species Report

Proposal Details

Assessment Id 00029440/BAAS17040/21/00029448	Proposal Name 6699 Humelink Assessment - Snowy Mountains	BAM data last updated * 22/06/2023
Assessor Name Simon Tweed	Report Created 18/08/2023	BAM Data version * 61
Assessor Number BAAS17040	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 4	Date Finalised 18/08/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Callocephalon fimbriatum Gang-gang Cockatoo	Yes (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☑ Dec ☐ Survey month outside the specified months?
Calotis glandulosa Mauve Burr-daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Calotis pubescens Max Mueller's Burr-daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Cercartetus nanus Eastern Pygmy-possum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Cyclodomorphus praealtus Alpine She-oak Skink	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Diuris ochroma Pale Golden Moths	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Euphrasia scabra Rough Eyebright	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Glycine latrobeana Clover Glycine	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Hieraaetus morphnoides Little Eagle	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Irenepharsus magicus Elusive Cress	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Leucochrysum albicans subsp. tricolor Hoary Sunray	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Litoria castanea Yellow-spotted Tree Frog	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Mastacomys fuscus Broad-toothed Rat	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox connivens Barking Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Ninox strenua Powerful Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Petauroides volans Southern Greater Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus australis - endangered population Yellow-bellied Glider population on the Bago Plateau	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petaurus norfolcensis Squirrel Glider	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Petroica rodinogaster Pink Robin	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascogale tapoatafa Brush-tailed Phascogale	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Phascolarctos cinereus Koala	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Prasophyllum bagoense Prasophyllum bagoense	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum innubum Prasophyllum innubum	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Prasophyllum keltonii Kelton's Leek Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pseudomys fumeus Smoky Mouse	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pseudophryne corroboree Southern Corroboree Frog	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pterostylis alpina Alpine Greenhood	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Pterostylis foliata Slender Greenhood	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Pterostylis oreophila Blue-tongued Greenhood	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Rutidosis leiolepis Monaro Golden Daisy	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Thelymitra alpicola Alpine Sun-orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Thesium australe Austral Toadflax	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Tyto novaehollandiae Masked Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Tyto tenebricosa Sooty Owl	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Xerochrysum palustre Swamp Everlasting	Yes (surveyed)	☐ Jan ☐ Feb ☑ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☑ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Alpine Tree Frog	Litoria verreauxii alpina	Refer to BAR
Caladenia montana	Caladenia montana	Refer to BAR
Guthega Skink	Liopholis guthega	Refer to BAR
Kiandra Leek Orchid	Prasophyllum retroflexum	Habitat constraints
Large Bent-winged Bat	Miniopterus orianae oceanensis	Habitat constraints
Leafy Anchor Plant	Discaria nitida	Refer to BAR
Northern Corroboree Frog	Pseudophryne pengilleyi	Refer to BAR
Spotted Tree Frog	Litoria spenceri	Habitat constraints
Square Raspwort	Haloragis exalata subsp. exalata	Refer to BAR
White-bellied Sea-Eagle	Haliaeetus leucogaster	Habitat constraints

BAM Credit Summary Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029448

Proposal Name
6699 Humelink Assessment - Snowy Mountains

BAM data last updated *
22/06/2023

Assessor Name
Simon Tweed

Report Created
18/08/2023

BAM Data version *
61

Assessor Number
BAAS17040

BAM Case Status
Finalised

Date Finalised
18/08/2023

Assessment Revision
4

Assessment Type
Major Projects

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion												
9	638_High_TCZ_100	Not a TEC	65.3	65.3	5.6	PCT Cleared - 5%	High Sensitivity to Gain			1.50		138

10	638_High_ECZ_100	Not a TEC	65.3	48.1	8.3	PCT Cleared - 5%	High Sensitivity to Gain			1.50		149
11	638_High_HTZ_100	Not a TEC	65.3	14.4	16.6	PCT Cleared - 5%	High Sensitivity to Gain			1.50		90
											Subtotal	**377**
Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion												
12	679_High_TCZ_100	Not a TEC	69.8	69.8	0.95	PCT Cleared - 35%	High Sensitivity to Gain			1.50		25
13	679_High_ECZ_100	Not a TEC	69.8	46.5	1.1	PCT Cleared - 35%	High Sensitivity to Gain			1.50		19
14	679_High_HTZ_100	Not a TEC	69.8	18.2	1.3	PCT Cleared - 35%	High Sensitivity to Gain			1.50		9
15	679_Low_TCZ_100	Not a TEC	32.9	32.9	0.16	PCT Cleared - 35%	High Sensitivity to Gain			1.50		2
16	679_Low_HTZ_100	Not a TEC	32.9	0.0	0.06	PCT Cleared - 35%	High Sensitivity to Gain			1.50		1
											Subtotal	**56**

Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion												
17	939_Veryhigh_TCZ_100	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	71	71.0	0.32	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00		11
18	939_Veryhigh_ECZ_100	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	71	14.5	0.02	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00		1

19	939_Veryhigh_HTZ_100	Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	71	0.0	0.22	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00		1
											Subtotal	**13**
Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion												
20	953_Veryhigh_TCZ_100	Not a TEC	76	76.0	19.4	PCT Cleared - 5%	High Sensitivity to Gain			1.50		554
21	953_Veryhigh_ECZ_100	Not a TEC	76	60.0	28.4	PCT Cleared - 5%	High Sensitivity to Gain			1.50		638
22	953_Veryhigh_HTZ_100	Not a TEC	76	19.9	34.2	PCT Cleared - 5%	High Sensitivity to Gain			1.50		256
23	953_High_TCZ_100	Not a TEC	45.7	45.7	0.06	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1

24	953_Moderate_TCZ_100	Not a TEC	48.8	48.8	0.02	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
25	953_Low_TCZ_100	Not a TEC	24.7	24.7	3	PCT Cleared - 5%	High Sensitivity to Gain			1.50		28
26	953_Low_ECZ_100	Not a TEC	24.7	22.2	0.31	PCT Cleared - 5%	High Sensitivity to Gain			1.50		3
27	953_Low_HTZ_100	Not a TEC	24.7	2.9	1.1	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
											Subtotal	**1482**
Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment												
1	300_High_TCZ_100	Not a TEC	76.7	76.7	5.1	PCT Cleared - 20%	High Sensitivity to Gain			1.50		146
2	300_High_ECZ_100	Not a TEC	76.7	59.1	6.5	PCT Cleared - 20%	High Sensitivity to Gain			1.50		145
3	300_High_HTZ_100	Not a TEC	76.7	17.4	11.3	PCT Cleared - 20%	High Sensitivity to Gain			1.50		74
4	300_Moderate_TCZ_100	Not a TEC	45.9	45.9	0.01	PCT Cleared - 20%	High Sensitivity to Gain			1.50		1

5	300_Moderate_ECZ_100	Not a TEC	45.9	43.5	0.11	PCT Cleared - 20%	High Sensitivity to Gain			1.50		2
6	300_Moderate_HTZ_100	Not a TEC	45.9	0.0	0.26	PCT Cleared - 20%	High Sensitivity to Gain			1.50		1
7	300_Low_TCZ_100	Not a TEC	27.6	27.6	0.23	PCT Cleared - 20%	High Sensitivity to Gain			1.50		2
8	300_Low_HTZ_100	Not a TEC	27.6	22.3	0.29	PCT Cleared - 20%	High Sensitivity to Gain			1.50		2
											Subtotal	**373**
Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion												
28	1196_High_TCZ_100	Not a TEC	73.4	73.4	6.4	PCT Cleared - 5%	High Sensitivity to Gain			1.50		176
29	1196_High_ECZ_100	Not a TEC	73.4	52.5	12.3	PCT Cleared - 5%	High Sensitivity to Gain			1.50		242
30	1196_High_HTZ_100	Not a TEC	73.4	10.5	12.3	PCT Cleared - 5%	High Sensitivity to Gain			1.50		48
31	1196_Low_TCZ_100	Not a TEC	35	35.0	0.38	PCT Cleared - 5%	High Sensitivity to Gain			1.50		5

32	1196_Low_ECZ_100	Not a TEC	35	32.9	0.03	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
33	1196_Low_HTZ_100	Not a TEC	35	0.0	0.27	PCT Cleared - 5%	High Sensitivity to Gain			1.50		1
											Subtotal	**473**
Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion												
34	1224_High_TCZ_100	Not a TEC	87.2	87.2	0.25	PCT Cleared - 5%	High Sensitivity to Gain			1.50		8
											Subtotal	**8**
											Total	**2782**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits
Callocephalon fimbriatum / Gang-gang Cockatoo (Fauna)									
300_High_TCZ_100	76.7	76.7	5.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	195

300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	193
300_High_HTZ_100	17.4	17.4	11.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	98
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	183
638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	199
638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	120
953_Veryhigh_TCZ_100	76.0	76.0	17.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	677
953_Veryhigh_ECZ_100	60.0	60.0	27.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	817

953_Veryhigh_HTZ_100	19.9	19.9	33.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	331
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	1
1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	234
1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	322
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	65
679_High_TCZ_100	69.8	69.8	0.76	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	27
679_High_ECZ_100	46.5	46.5	1.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	26

679_High_HTZ_100	18.2	18.2	1.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Endangered	False	12
								Subtotal	**3500**
Calotis glandulosa / Mauve Burr-daisy (Flora)									
1196_High_TCZ_100	73.4	73.4	2.5	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	139
1196_High_ECZ_100	52.5	52.5	4.8	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	189
1196_High_HTZ_100	10.5	10.5	7.5	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	59
1196_Low_TCZ_100	35.0	35.0	0.08	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	2
1196_Low_HTZ_100	0.0	0.0	0.03	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	1
1224_High_TCZ_100	87.2	87.2	0.25	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	16
679_High_TCZ_100	69.8	69.8	0.51	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	27

679_High_ECZ_100	46.5	46.5	0.11	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	4
679_High_HTZ_100	18.2	18.2	0.19	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	3
679_Low_TCZ_100	32.9	32.9	0.04	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	1
679_Low_HTZ_100	0.0	0.0	0.01	Rate of decline	Quantity class of viable seeds produced	Vulnerable	Vulnerable	True	0
								Subtotal	**441**
Calotis pubescens / Max Mueller's Burr-daisy (Flora)									
1224_High_TCZ_100	87.2	87.2	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Not Listed	False	11
								Subtotal	**11**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)									
300_High_TCZ_100	76.7	76.7	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	193

300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	193
300_High_HTZ_100	17.4	17.4	10.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	92
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	183
638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	199
638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	120
953_Veryhigh_TCZ_100	76.0	76.0	15.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	586

953_Veryhigh_ECZ_100	60.0	60.0	24.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	733
953_Veryhigh_HTZ_100	19.9	19.9	29.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	293
								Subtotal	**2592**
Cyclodomorphus praealtus / Alpine She-oak Skink (Fauna)									
1196_High_TCZ_100	73.4	73.4	2.7	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	98
1196_High_ECZ_100	52.5	52.5	4.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	120
1196_High_HTZ_100	10.5	10.5	3.7	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	20

679_High_TCZ_100	69.8	69.8	0.09	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	3
679_High_ECZ_100	46.5	46.5	0.58	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	13
679_High_HTZ_100	18.2	18.2	0.5	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Endangered	Endangered	False	5
								Subtotal	**259**
Diuris ochroma / Pale Golden Moths (Flora)									
1224_High_TCZ_100	87.2	87.2	0.25	Geographic Distribution	Effectiveness of management in controlling threats	Endangered	Vulnerable	True	16
								Subtotal	**16**
Euphrasia scabra / Rough Eyebright (Flora)									
679_High_TCZ_100	69.8	69.8	0.38	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	20

679_High_ECZ_100	46.5	46.5	0.57	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	20
679_High_HTZ_100	18.2	18.2	0.84	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	11
679_Low_TCZ_100	32.9	32.9	0.04	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	1
679_Low_HTZ_100	0.0	0.0	0.03	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	0
								Subtotal	**52**
Glycine latrobeana / Clover Glycine (Flora)									
1224_High_TCZ_100	87.2	87.2	0.25	Biodiversity Conservation Act listing status	Ability to colonise improved habitat	Critically Endangered	Vulnerable	True	16
								Subtotal	**16**

Hieraaetus morphnoides / Little Eagle (Fauna)									
300_High_TCZ_100	76.7	76.7	5.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	146
300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	145
300_High_HTZ_100	17.4	17.4	11.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	74
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	138
638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	149

638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	90
953_Veryhigh_TCZ_100	76.0	76.0	19.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	554
953_Veryhigh_ECZ_100	60.0	60.0	28.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	638
953_Veryhigh_HTZ_100	19.9	19.9	34.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	256
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Moderate_TCZ_100	48.8	48.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	176
1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	242
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	48
679_High_TCZ_100	69.8	69.8	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	25
679_High_ECZ_100	46.5	46.5	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	19
679_High_HTZ_100	18.2	18.2	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9

939_Veryhigh_TCZ_100	71.0	71.0	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9
939_Veryhigh_ECZ_100	14.5	14.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
939_Veryhigh_HTZ_100	0.0	0.0	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**2722**
Irenepharsus magicus / Elusive Cress (Flora)									
638_High_TCZ_100	65.3	65.3	5	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	246
638_High_ECZ_100	48.1	48.1	6.9	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	250

638_High_HTZ_100	14.4	14.4	14.6	Geographic Distribution	Ecology or response to management is poorly known	Endangered	Not Listed	True	158
								Subtotal	**654**
Leucochrysum albicans subsp. tricolor / Hoary Sunray (Flora)									
953_Veryhigh_TCZ_100	N/A	N/A	988	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1976
953_Veryhigh_ECZ_100	N/A	N/A	1435	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2870
953_Veryhigh_HTZ_100	N/A	N/A	1864	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	3728
953_High_TCZ_100	N/A	N/A	5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	10

953_Low_TCZ_100	N/A	N/A	236	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	472
953_Low_ECZ_100	N/A	N/A	18	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	36
953_Low_HTZ_100	N/A	N/A	61	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	122
1196_High_TCZ_100	N/A	N/A	220	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	440
1196_High_ECZ_100	N/A	N/A	440	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	880
1196_High_HTZ_100	N/A	N/A	640	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1280

1196_Low_TCZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8
1196_Low_HTZ_100	N/A	N/A	2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	4
679_High_TCZ_100	N/A	N/A	42	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	84
679_High_ECZ_100	N/A	N/A	9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	18
679_High_HTZ_100	N/A	N/A	24	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	48
679_Low_TCZ_100	N/A	N/A	4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	8

679_Low_HTZ_100	N/A	N/A	1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	2
								Subtotal	**11986**
Litoria castanea / Yellow-spotted Tree Frog (Fauna)									
939_Veryhigh_TCZ_100	71.0	71.0	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	17
939_Veryhigh_ECZ_100	14.5	14.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
939_Veryhigh_HTZ_100	0.0	0.0	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
								Subtotal	**19**

Mastacomys fuscus / Broad-toothed Rat (Fauna)									
679_High_TCZ_100	69.8	69.8	0.86	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	30
679_High_ECZ_100	46.5	46.5	0.54	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	13
679_High_HTZ_100	18.2	18.2	0.82	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	7
								Subtotal	**50**
Ninox connivens / Barking Owl (Fauna)									
638_High_TCZ_100	65.3	65.3	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	112
638_High_ECZ_100	48.1	48.1	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	143

638_High_HTZ_100	14.4	14.4	11.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	85
953_Veryhigh_TCZ_100	76.0	76.0	17.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	678
953_Veryhigh_ECZ_100	60.0	60.0	27.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	816
953_Veryhigh_HTZ_100	19.9	19.9	33.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	331
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**2166**
Ninox strenua / Powerful Owl (Fauna)									
300_High_TCZ_100	76.7	76.7	4.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	185

300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	193
300_High_HTZ_100	17.4	17.4	11.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	97
638_High_TCZ_100	65.3	65.3	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	112
638_High_ECZ_100	48.1	48.1	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	143
638_High_HTZ_100	14.4	14.4	11.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	85
953_Veryhigh_TCZ_100	76.0	76.0	17.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	678
953_Veryhigh_ECZ_100	60.0	60.0	27.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	816

953_Veryhigh_HTZ_100	19.9	19.9	33.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	331
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**2641**
Petauroides volans / Southern Greater Glider (Fauna)									
300_High_TCZ_100	76.7	76.7	4.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	185
300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	193
300_High_HTZ_100	17.4	17.4	11.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	97
638_High_TCZ_100	65.3	65.3	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	112

638_High_ECZ_100	48.1	48.1	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	143
638_High_HTZ_100	14.4	14.4	11.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	85
1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	234
1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	322
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	False	65
								Subtotal	**1436**
Petaurus australis - endangered population / Yellow-bellied Glider population on the Bago Plateau (Fauna)									
638_High_TCZ_100	65.3	65.3	3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	98

638_High_ECZ_100	48.1	48.1	5.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	135
638_High_HTZ_100	14.4	14.4	10.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered Population	Not Listed	False	78
								Subtotal	**311**
Petaurus norfolcensis / Squirrel Glider (Fauna)									
953_Veryhigh_TCZ_100	76.0	76.0	14	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	531
953_Veryhigh_ECZ_100	60.0	60.0	20.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	619
953_Veryhigh_HTZ_100	19.9	19.9	26.5	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	264
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**1415**

Petroica rodinogaster / Pink Robin (Fauna)									
300_High_TCZ_100	76.7	76.7	5.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	195
300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	193
300_High_HTZ_100	17.4	17.4	11.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	99
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	184
638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	199

638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	120
953_Veryhigh_TCZ_100	76.0	76.0	19.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	739
953_Veryhigh_ECZ_100	60.0	60.0	28.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	850
953_Veryhigh_HTZ_100	19.9	19.9	34.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	341
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
953_Moderate_TCZ_100	48.8	48.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1

1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	234
1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	322
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	65
679_High_TCZ_100	69.8	69.8	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	33
679_High_ECZ_100	46.5	46.5	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	26
679_High_HTZ_100	18.2	18.2	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	12

								Subtotal	3614
Phascogale tapoatafa / Brush-tailed Phascogale (Fauna)									
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	183
638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	199
638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	120
953_Veryhigh_TCZ_100	76.0	76.0	17.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	678
953_Veryhigh_ECZ_100	60.0	60.0	27.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	817
953_Veryhigh_HTZ_100	19.9	19.9	33.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	331

953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**2329**
Phascolarctos cinereus / Koala (Fauna)									
300_High_TCZ_100	76.7	76.7	5.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	195
300_High_ECZ_100	59.1	59.1	6.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	193
300_High_HTZ_100	17.4	17.4	11.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	99
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	184

638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	199
638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	120
953_Veryhigh_TCZ_100	76.0	76.0	19.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	739
953_Veryhigh_ECZ_100	60.0	60.0	28.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	850
953_Veryhigh_HTZ_100	19.9	19.9	34.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	341
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1

953_Moderate_TCZ_100	48.8	48.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	234
1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	322
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	65
679_High_TCZ_100	69.8	69.8	0.95	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	33
679_High_ECZ_100	46.5	46.5	1.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	26

679_High_HTZ_100	18.2	18.2	1.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	12
939_Veryhigh_TCZ_100	71.0	71.0	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	11
939_Veryhigh_ECZ_100	14.5	14.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
939_Veryhigh_HTZ_100	0.0	0.0	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Endangered	False	1
								Subtotal	**3627**
Prasophyllum bagoense / Prasophyllum bagoense (Flora)									
1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	351

1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	483
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	97
1196_Low_TCZ_100	35.0	35.0	0.38	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	10
1196_Low_ECZ_100	32.9	32.9	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
1196_Low_HTZ_100	0.0	0.0	0.27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
1224_High_TCZ_100	87.2	87.2	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	16

								Subtotal	**959**
Prasophyllum innubum / Prasophyllum innubum (Flora)									
1224_High_TCZ_100	87.2	87.2	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	16
								Subtotal	**16**
Prasophyllum keltonii / Kelton's Leek Orchid (Flora)									
1196_High_TCZ_100	73.4	73.4	6.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	351
1196_High_ECZ_100	52.5	52.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	483
1196_High_HTZ_100	10.5	10.5	12.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	97
1196_Low_TCZ_100	35.0	35.0	0.38	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	10

1196_Low_ECZ_100	32.9	32.9	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
1196_Low_HTZ_100	0.0	0.0	0.27	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	1
								Subtotal	**943**
Pseudomys fumeus / Smoky Mouse (Fauna)									
638_High_TCZ_100	65.3	65.3	5.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	276
638_High_ECZ_100	48.1	48.1	8.3	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	299
638_High_HTZ_100	14.4	14.4	16.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	180

953_Veryhigh_TCZ_100	76.0	76.0	19.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1108
953_Veryhigh_ECZ_100	60.0	60.0	28.4	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1276
953_Veryhigh_HTZ_100	19.9	19.9	34.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	511
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	2
953_Moderate_TCZ_100	48.8	48.8	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	1
1196_High_TCZ_100	73.4	73.4	3.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	204

1196_High_ECZ_100	52.5	52.5	7.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	303
1196_High_HTZ_100	10.5	10.5	8.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Endangered	True	67
								Subtotal	**4227**
Pseudophryne corroboree / Southern Corroboree Frog (Fauna)									
1196_High_TCZ_100	73.4	73.4	3.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	204
1196_High_ECZ_100	52.5	52.5	7.7	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	302
1196_High_HTZ_100	10.5	10.5	8.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	67

679_High_TCZ_100	69.8	69.8	0.14	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	7
679_High_ECZ_100	46.5	46.5	0.84	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	29
679_High_HTZ_100	18.2	18.2	1.2	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Critically Endangered	Critically Endangered	True	16
								Subtotal	**625**
Pterostylis alpina / Alpine Greenhood (Flora)									
1196_High_TCZ_100	73.4	73.4	3.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	139
1196_High_ECZ_100	52.5	52.5	8.4	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	220

1196_High_HTZ_100	10.5	10.5	9.8	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	51
1196_Low_TCZ_100	35.0	35.0	0.14	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	2
1196_Low_ECZ_100	32.9	32.9	0.01	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	1
1196_Low_HTZ_100	0.0	0.0	0.11	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	1
679_High_TCZ_100	69.8	69.8	0.86	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	30
679_High_ECZ_100	46.5	46.5	0.46	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	11

679_High_HTZ_100	18.2	18.2	0.86	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	8
679_Low_TCZ_100	32.9	32.9	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	1
679_Low_HTZ_100	0.0	0.0	0.03	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	0
								Subtotal	**464**
Pterostylis foliata / Slender Greenhood (Flora)									
638_High_TCZ_100	65.3	65.3	2.9	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	94
638_High_ECZ_100	48.1	48.1	4.5	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	108

638_High_HTZ_100	14.4	14.4	9.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	66
1196_High_TCZ_100	73.4	73.4	2.9	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	108
1196_High_ECZ_100	52.5	52.5	6.6	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	174
1196_High_HTZ_100	10.5	10.5	8.2	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	43
1196_Low_TCZ_100	35.0	35.0	0.1	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	2
1196_Low_HTZ_100	0.0	0.0	0.06	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	1

679_High_TCZ_100	69.8	69.8	0.86	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	30
679_High_ECZ_100	46.5	46.5	0.36	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	8
679_High_HTZ_100	18.2	18.2	0.76	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	7
679_Low_TCZ_100	32.9	32.9	0.04	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	1
679_Low_HTZ_100	0.0	0.0	0.03	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Vulnerable	Not Listed	False	0
								Subtotal	**642**

Pterostylis oreophila / Blue-tongued Greenhood (Flora)									
939_Veryhigh_TCZ_100	71.0	71.0	0.32	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	17
939_Veryhigh_ECZ_100	14.5	14.5	0.02	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
939_Veryhigh_HTZ_100	0.0	0.0	0.22	Biodiversity Conservation Act listing status	Ecology or response to management is poorly known	Critically Endangered	Critically Endangered	True	1
								Subtotal	**19**
Rutidosis leiolepis / Monaro Golden Daisy (Flora)									
1224_High_TCZ_100	N/A	N/A	350	Biodiversity Conservation Act listing status	Reproductive Strategy	Vulnerable	Vulnerable	False	700
								Subtotal	**700**
Thelymitra alpicola / Alpine Sun-orchid (Flora)									
939_Veryhigh_TCZ_100	71.0	71.0	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	9

939_Veryhigh_ECZ_100	14.5	14.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
939_Veryhigh_HTZ_100	0.0	0.0	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Not Listed	False	1
								Subtotal	**11**
Thesium australe / Austral Toadflax (Flora)									
1196_High_TCZ_100	73.4	73.4	3.6	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	99
1196_High_ECZ_100	52.5	52.5	7.9	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	155
1196_High_HTZ_100	10.5	10.5	9.5	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	37

1196_Low_TCZ_100	35.0	35.0	0.17	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	2
1196_Low_ECZ_100	32.9	32.9	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1196_Low_HTZ_100	0.0	0.0	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
1224_High_TCZ_100	87.2	87.2	0.25	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	8
679_High_TCZ_100	69.8	69.8	0.8	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	21
679_High_ECZ_100	46.5	46.5	0.46	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	8

679_High_HTZ_100	18.2	18.2	0.86	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	6
679_Low_TCZ_100	32.9	32.9	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	1
679_Low_HTZ_100	0.0	0.0	0.03	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Vulnerable	Vulnerable	False	0
								Subtotal	**339**
Tyto novaehollandiae / Masked Owl (Fauna)									
638_High_TCZ_100	65.3	65.3	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	112
638_High_ECZ_100	48.1	48.1	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	143
638_High_HTZ_100	14.4	14.4	11.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	85

953_Veryhigh_TCZ_100	76.0	76.0	17.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	678
953_Veryhigh_ECZ_100	60.0	60.0	27.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	816
953_Veryhigh_HTZ_100	19.9	19.9	33.2	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	331
953_High_TCZ_100	45.7	45.7	0.06	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	1
								Subtotal	**2166**
Tyto tenebricosa / Sooty Owl (Fauna)									
638_High_TCZ_100	65.3	65.3	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	True	168
638_High_ECZ_100	48.1	48.1	6	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	True	215

638_High_HTZ_100	14.4	14.4	11.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	True	128
								Subtotal	**511**
Xerochrysum palustre / Swamp Everlasting (Flora)									
953_Veryhigh_TCZ_100	76.0	76.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1
953_Veryhigh_ECZ_100	60.0	60.0	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1
953_Veryhigh_HTZ_100	19.9	19.9	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1
679_High_TCZ_100	69.8	69.8	0.46	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	12

679_High_ECZ_100	46.5	46.5	0.1	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	2
679_High_HTZ_100	18.2	18.2	0.21	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1
679_Low_TCZ_100	32.9	32.9	0.04	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1
679_Low_HTZ_100	0.0	0.0	0.01	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	0
939_Veryhigh_TCZ_100	71.0	71.0	0.32	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	9
939_Veryhigh_ECZ_100	14.5	14.5	0.02	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1

939_Veryhigh_HTZ_100	0.0	0.0	0.22	Biodiversity Conservation Act listing status	Effectiveness of management in controlling threats	Not Listed	Vulnerable	False	1
								Subtotal	**30**

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00029440/BAAS17040/21/00029448	6699 Humelink Assessment - Snowy Mountains	22/06/2023
Assessor Name	**Report Created**	**BAM Data version ***
Simon Tweed	18/08/2023	61
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS17040	Major Projects	Finalised
Assessment Revision		**Date Finalised**
4		18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Barking Owl	Ninox connivens	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Dusky Woodswallow	Artamus cyanopterus cyanopterus	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion

Dusky Woodswallow	Artamus cyanopterus cyanopterus	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
Eastern False Pipistrelle	Falsistrellus tasmaniensis	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
Flame Robin	Petroica phoenicea	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion

Flame Robin	Petroica phoenicea	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
Gang-gang Cockatoo	Callocephalon fimbriatum	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
Large Bent-winged Bat	Miniopterus orianae oceanensis	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion

Little Eagle	Hieraaetus morphnoides	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
Masked Owl	Tyto novaehollandiae	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Olive Whistler	Pachycephala olivacea	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
Powerful Owl	Ninox strenua	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

Powerful Owl	Ninox strenua	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
Rosenberg's Goanna	Varanus rosenbergi	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
Scarlet Robin	Petroica boodang	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
Sooty Owl	Tyto tenebricosa	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
Spotted Harrier	Circus assimilis	939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
Spotted-tailed Quoll	Dasyurus maculatus	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

Spotted-tailed Quoll	Dasyurus maculatus	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
Varied Sittella	Daphoenositta chrysoptera	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
White-throated Needletail	Hirundapus caudacutus	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

White-throated Needletail	Hirundapus caudacutus	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion
		939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
Yellow-bellied Glider	Petaurus australis	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment
		638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion
		953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
White-bellied Sea-Eagle	Haliaeetus leucogaster	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment

White-bellied Sea-Eagle	Haliaeetus leucogaster	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion
		1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00029440/BAAS17040/21/00029448

Assessment name
6699 Humelink Assessment - Snowy Mountains

BAM data last updated *
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Assessor Name
Simon Tweed

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4

Date Finalised
18/08/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones

1	300_High_TCZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	High_TCZ_100	5.08	3	
2	300_High_ECZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	High_ECZ_100	6.54	3	
3	300_High_HTZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	High_HTZ_100	11.31	3	
4	300_Moderate_TCZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Moderate_TCZ_100	0.01	1	

5	300_Moderate_ECZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Moderate_ECZ_100	0.11	1	
6	300_Moderate_HTZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Moderate_HTZ_100	0.26	1	
7	300_Low_TCZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Low_TCZ_100	0.23	1	
8	300_Low_HTZ_100	300-Ribbon Gum - Narrow-leaved (Robertsons) Peppermint montane fern - grass tall open forest on deep clay loam soils in the upper NSW South Western Slopes Bioregion and western Kosciuszko escarpment	Low_HTZ_100	0.29	1	

9	638_High_TCZ_100	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	High_TCZ_100	5.63	3	
10	638_High_ECZ_100	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	High_ECZ_100	8.29	3	
11	638_High_HTZ_100	638-Alpine Ash - Mountain Gum moist shrubby tall open forest of montane areas, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	High_HTZ_100	16.63	3	
12	679_High_TCZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_TCZ_100	0.95		
13	679_High_ECZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_ECZ_100	1.11		
14	679_High_HTZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_HTZ_100	1.32		

15	679_Low_TCZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_TCZ_100	0.16		
16	679_Low_HTZ_100	679-Black Sallee - Snow Gum low woodland of montane valleys, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_HTZ_100	0.06		
17	939_Veryhigh_TCZ_100	939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	Veryhigh_TCZ_100	0.32		
18	939_Veryhigh_ECZ_100	939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	Veryhigh_ECZ_100	0.02		
19	939_Veryhigh_HTZ_100	939-Montane wet heath and bog of the eastern tablelands, South Eastern Highlands Bioregion	Veryhigh_HTZ_100	0.22		
20	953_Veryhigh_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Veryhigh_TCZ_100	19.44		
21	953_Veryhigh_ECZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Veryhigh_ECZ_100	28.35	4	

22	953_Veryhigh_HTZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Veryhigh_HTZ_100	34.2	4	
23	953_High_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_TCZ_100	0.06	1	
24	953_Moderate_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Moderate_TCZ_100	0.02	1	
25	953_Low_TCZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_TCZ_100	3	2	
26	953_Low_ECZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_ECZ_100	0.31	1	
27	953_Low_HTZ_100	953-Mountain Gum - Snow Gum - Broad-leaved Peppermint shrubby open forest of montane ranges, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_HTZ_100	1.12	1	

28	1196_High_TCZ_100	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_TCZ_100	6.38	3	
29	1196_High_ECZ_100	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_ECZ_100	12.28	3	
30	1196_High_HTZ_100	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	High_HTZ_100	12.34	3	
31	1196_Low_TCZ_100	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_TCZ_100	0.38	1	
32	1196_Low_ECZ_100	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_ECZ_100	0.03	1	
33	1196_Low_HTZ_100	1196-Snow Gum - Mountain Gum shrubby open forest of montane areas, South Eastern Highlands Bioregion and Australian Alps Bioregion	Low_HTZ_100	0.27	1	

34	1224_High_TCZ_100	1224-Sub-alpine dry grasslands and heathlands of valley slopes, southern South Eastern Highlands Bioregion and Australian Alps Bioregion	High_TCZ_100	0.25	1	

Attachment 21. Prescribed impacts assessment

1. Karst, caves, crevices, cliffs, rocks and other geological features of significance supporting habitat for threatened fauna species

The assessment of impacts to karst, caves, crevices, cliffs, rocks as a result of the project is detailed in Section 12.5.2, Table 13-21 and Table 12-22 of the BDAR. A detailed explanation of the supplementary stepwise approach used to map cliffline and karst habitat is outlined below, with supporting advice and consultation from the NSW BCD.

1.1 Supplementary cliffline and karst modelling

Potential karst and cliffline habitats that may offer suitable roosting opportunities for candidate microchirpotera species were mapped using the approach documented below. These sites were ground-truthed to confirm the presence/ absence of roosts within accessible lands. However, where lands could not be accessed, microbat breeding within these habitats has been assumed. The areas identified as having high potential for supporting cliff and karst habitats are outlined below in Table A21- 3 and Table A21- 4.

The mapping of habitat polygons was considered robust during the spatial review phase for both karst and cliffline mapping, and all areas of undulating, steep terrain, and generally rocky areas were mapped broadly (given the area hasn't been ground-truthed) to encompass areas of potential karst and cliffline habitat (including areas of potential small scarps, and caves).

Advice from the NSW BCD was provided via email on the 23 November 2022, regarding threatened microbat species polygon mapping approaches. This is outlined below in relation to relevant species.

Niche completed a thorough desktop review of available data and literature to determine the location of nearby known or potential maternity roost sites. The literature review determined that there were no confirmed or potential Little Bent-winged Bat, Large Bent-winged Bat and Large-eared Pied Bat breeding roosts records (BioNet 2022) within 100 m of the project footprint. However, this approach does not address data gaps for areas that have not been previously ground-truthed or surveyed within the project footprint. Therefore, a precautionary approach has been adopted and a supplementary method for mapping potential breeding and roosting habitat implemented. Where land access was permissible, biodiversity surveys were conducted, and habitat has been ground-truthed and mapped.

1.1.1 NSW BCD advice

- "Little and Large Bent-wing Bats:
  - **Potential breeding habitat** is caves, tunnels, mines, or other structures known or suspected to be used by M. schreibersii oceanensis including species records in BioNet with microhabitat code 'IC – in cave'; observation type code 'E nest-roost'; with numbers of individuals >500; or from the scientific literature. All breeding habitats including the cave, or other features, used for breeding and the area immediately surrounding this feature must be mapped. Species polygon boundaries should have a 100-metre radius buffer around an accurate GPS point location centred on the cave/feature entrance.
  - our advice is to conduct a BioNet search of both species and search for records 'in cave' or 'roost' or where the numbers >500 , and a literature search for published roost - (any of those could be considered 'known or suspected to be used..') – if no records (plus 100 metre buffer) are located within the route /potential footprint then there is no 'potential breeding habitat' and you would

not need to survey or offset. You must publish the results of the search in the BDAR demonstrating the absence of such locations.

- Large eared pied Bat:
  - **Potential breeding habitat**: The PCTs associated with the species (as per the TBDC) within 100 metres of rocky areas containing caves, or overhangs or crevices, cliffs or escarpments, or old mines, tunnels, culverts, derelict concrete buildings.
  - As per previous advice we are concerned that the modelling of Karst and cliffs sounds might not have sufficient resolution to detect small scarps, and caves. Niche will need to demonstrate and justify that the resolution is adequate in the BDAR– then apply the BAM standards (PCTs associate with the species within distances) this may be sufficient for assumed presence – again if not assuming presence we advise a species expert approach as surveys must be undertaken as per the Threatened Bat Survey Guide to confirm/discount breeding habitat
  - Please note that where there is not sufficient justification to reliably conclude absence of habitat constraints, survey or an expert report must be provided to determine absence or refine species polygon."

1.1.2 Karst mapping methods

Karst mapping involved a review of BioNet (2022) records and literature review to establish known bat roost sites within the broader locality (within 50 kilometres of the project footprint) including the following data sources:

- Geoscience Australia (including geomorphology and caves mapping, Geoscience Australia 2006) datasets
- Scientific literature on known maternity roosts, and karst sites within the Lachlan Fold Belt, age, and formation processes:
  - Law, B and Chidel, M (2004). Summer counts of the eastern bent-wing bat at Drum Cave, Bungonia – 2003/04. *Report to the NSW National Parks and Wildlife Service.* Research and Development Division, State Forests of New South Wales.
  - Magee, J.W (2009). Palaeovalley groundwater resources in arid and semi-arid Australia – a literature review. *Geoscience Australia Record 2009/03*, Geoscience Australia, Canberra.
  - Mills, D (2021). Summer and autumn activity patterns of the eastern bent-wing bat (*Miniopterus orianae oceanensis*) at a large maternity site in southern New South Wales. *Australian Journal of Zoology* 68, 332-345.
  - Osborne, R.A.L. and Branagan, D.F., 1988. Karst landscapes of New South Wales, Australia. *Landscapes of the Southern Hemisphere* 25: 467-480.
  - Osborne, R (2010). Rethinking eastern Australian caves. *Geological Society of London Special Publications.* 346. 289-308. 10.1144/SP346.15.
  - Spate, A and Baker, A (2018). Karst values of Kosciuszko National Park: A review of values and recent research. *Proceedings of the Linnean Society of New South Wales* 140, 253-264.
  - Williams E and Thomson, B (2018). Aspects of the foraging and roosting ecology of the large-eared pied bat (*Chalinolobus dwyeri*) in the western Blue Mountains, with implications for conservation. *Australian Mammalogy* 41, 212-219.
  - NSW Seamless Geology Version 2.1 (Department of Regional New South Wales 2020) https://geonetwork.geoscience.nsw.gov.au/geonetwork/srv/eng/catalog.search#/metadata/3dfbc096-ab1f-4b34-92a1-5e347bfaecb8:
  - NSW Surface Geology (1:100,000)
  - Contour mapping to determine areas where there were obvious high topographic relief/cliff line areas:
  - NSW Elevation and Depth theme contour mapping (1:25000, using 5 m accuracy DEM and hill shade model) (Spatial Services 2021)

https://portal.spatial.nsw.gov.au/portal/home/item.html?id=f1b1b26b23ab4574a561f890edd3bd7e

Regional karst information (obtained collated datasets and scientific literature) was collated and analysed spatially. Using multiple lines of evidence, the initial stages of the review process Included:

- A review of valid BioNet and Atlas of Living Australia (ALA) microbat records within a 50 kilometre buffer of the project footprint
- A review of published literature to determine the locality of known or potential maternity roost sites in proximity to the project footprint, cave roost microhabitat requirements, general seasonal migration paths/distribution of threatened cave-dwelling bat species
- A review of known karst sites within the Lachlan Fold Belt, age, and formation processes.

Using ArcMap, the project footprint was buffered by 50 kilometres and the NSW Seamless Geology was clipped to the 50 kilometres buffer; the new layer was labelled 'Geology 50 kilometres buffer'. The same process was also undertaken for valid BioNet records within 50 kilometres of the Project Footprint. The BioNet records were filtered and refined to show only records for 'Southern Myotis', 'Large-eared Pied Bat', 'Little Bentwinged-bat' and 'Large Bentwinged-bat'. The observation types were also filtered to highlight records spatially where observations state 'trapped', 'in cave' or 'roost', or where there were more than 500 individuals recorded.

Using the intersect tool, with a 50 kilometres buffer of the geology layer and the caves mapping layer (Geoscience Australia 2006), a new layer was created called 'Cave Geology'.

Layer attributes were filtered and refined, where similar geological formations occurred within the project footprint to confirmed cave/roost sites (e.g., Yarrangobilly, Bungonia and Wee Jasper) or landscapes containing carbonate bedrocks with a similar deposition age (usually limestone, dolomite, or marble) were identified. This layer was then intersected with the refined BioNet record layer, to determine where species records correspond with known karst locations, or geologies considered 'karstic'. The combined layer (referred to as 'Karst Geology') is represented below in Table A21- 1.

Table A21- 1: Cave Geologies, potential and known bat roosts within the project footprint and broader region

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
Cobra Formation	Cobra Formation	Billy's Creek Cave	Cave	Marl interbedded with limestone and limestone breccia, calcareous siltstone with shelly detritus on bedding planes, siliceous siltstone, and mudstone; minor porphyritic rhyolite with peperite (intrusive hyaloclastite).	Shallow Marine	Ludlow	Mudstone	No	N/A	38	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Burrinjuck Granite	Burrinjuck Granite	Black Andrew Mine	Mine	Pink, medium- to coarse-grained, massive, equigranularity, leucocratic, biotite granite. High magnetic susceptibility.	Shallow crustal - continental I-type	Early Devonian	Granite	Yes	Large Bent-winged Bat	17	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Wee Jasper Formation	Wee Jasper Formation	Black Andrew Nature Reserve	Overhang / Cave	Fining-upward cycles of red purple–brown conglomerate, cross-bedded sandstone and siltstone, approximately 1760 m thick in type section.	Terrestrial - alluvial fan	Middle Devonian	Siliciclastic sedimentary rock	Yes	Large Bent-winged Bat	17	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Abercrombie Formation	Abercrombie Formation	Bungonia Caves	Cave	Brown and buff to grey, thin- to thick-bedded, fine- to coarse-grained mica-quartz (±feldspar)	Deep Marine - siliciclastic & biochemical	Early Ordovician	Saprolite/ sandstone	Yes	Large Bent-winged Bat	39	Confirmed cave, roost site and comprised of marine

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
				sandstone, interbedded with laminated siltstone and mudstone. Sporadic chert-rich units.							sediments (typical deposition type for caves within the Lachlan Fold Belt).
Taemas Limestone	Taemas Limestone	Careys Cave	Cave	Blue–grey, thick- to thin- well-bedded or occasionally massive, often richly fossiliferous limestone. Minor impure flaggy limestone, calcareous mudstone or shale, and tuffaceous sandstone.	Shallow Marine - carbonate	Early Devonian	Limestone	Yes	Large Bent-winged Bat	24	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Wee Jasper Formation	Wee Jasper Formation	Church Cave	Cave	Fining-upward cycles of red purple–brown conglomerate, cross-bedded sandstone and siltstone, approximately 1760 m thick in type section.	Terrestrial - alluvial fan	Middle Devonian	Siliciclastic sedimentary rock	Yes	Large Bent-winged Bat/Southern Myotis	26	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Cobra Formation	Cobra Formation - limestone	Colong Caves	Cave	Limestone lenses.	Shallow Marine - carbonate	Ludlow	Limestone	No	N/A	37	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
Blue Waterhole Formation	Blue Waterhole Formation	Cooleman Caves	Cave	Siltstone, cherty siltstone, limestone and hornfels.	Shallow Marine - shelf	Ludlow	Siltstone	No	N/A	36	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Cooleman Limestone	Cooleman Limestone	Cooleman Caves	Cave	Massive to well-bedded limestone, commonly strongly recrystallised.	Shallow Marine - carbonate	Ludlow	Siltstone	No	N/A	36	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Elmside Formation	Elmside Formation - limestone	project footprint	Murrumbateman	Algal limestone.	Shallow Marine - carbonate	Ludlow	Algal limestone	Not known	N/A	0	Dominant lens is algal limestone, deposition is shallow marine. Deposition and age is the same as Wombeyan, Yarrangobilly, and Colong Caves.
Talmo Formation	Talmo Formation - mudstone/ limestone	project footprint	Murrumbateman	Interbedded green-grey, dark grey or black mudstone layers, 2–20 cm thick, and recessive limestone beds, approximately 5–20 cm thick.	Shallow Marine - carbonate	Llandovery	Mudstone	Not known	N/A	0	Same geology formation, deposition, and age as Billy's Creek Cave.

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
Hawkins Volcanics	Hawkins Volcanics	project footprint	Murrumbateman	Blue-grey, massive, welded, porphyritic biotite-cordierite-garnet rhyolitic to dacitic ignimbrite; sporadic quartz and dioritic xenoliths. Flow-banded, vesicular rhyodacitic-dacite; volcanic sandstone, minor rhyodacitic agglomerate and rhyolitic lapilli tuff	Transitional (marine to terrestrial)	Llandovery	Pyroclastic rock	Possible	Large Bent-winged Bat - Niche recorded	0	Dominant lens and deposition type is the same as Wombeyan Caves, however, different Epoch/Age.
Elmside Formation	Elmside Formation	project footprint	Murrumbateman	Fine- to coarse-grained, graded, lithic sandstone and grey, laminated mudstone with rare, thin beds of graded, lithic sandstone; minor massive, algal limestone.	Shallow Marine - shelf	Ludlow	Sandstone	Not known	N/A	0	Deposition is shallow marine, with limestone deposits. Deposition and age are the same as Wombeyan, Yarrangobilly, and Colong Caves.
Abercrombie Formation	Abercrombie Formation	project footprint	Murrumbateman	Brown and buff to grey, thin- to thick-bedded, fine- to coarse-grained mica-quartz (±feldspar) sandstone, interbedded with laminated siltstone and mudstone. Sporadic chert-rich units.	Deep Marine - siliciclastic & biochemical	Early Ordovician	Saprolite/sandstone	Not known	N/A	0	Same geology formation, deposition, and age as Bungonia Caves.

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
Taemas Limestone	Bloomfield Limestone Member	Pylon 58 Cave	Cave	Blue–grey, thin-interbedded, massive, or laminated, fossiliferous limestone and shale.	Shallow Marine - carbonate	Early Devonian	Limestone	Yes	Large Bent-winged Bat	23	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Ravine beds	Ravine beds	Ravine Caves	Cave	Shale, slate, siltstone, conglomerate.	Shallow Marine - shelf	Silurian	Shale	Yes	Large Bent-winged Bat	15	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Blue Waterhole Formation	Blue Waterhole Formation	Unnamed	Cave	Siltstone, cherty siltstone, limestone and hornfels.	Shallow Marine - shelf	Ludlow	Limestone	No	N/A	18	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Cooleman Limestone	Cooleman Limestone	Unnamed	Cave	Massive to well-bedded limestone, commonly strongly recrystallised.	Shallow Marine - carbonate	Ludlow	Limestone	No	N/A	30	Confirmed cave and comprised of marine sediments (typical deposition type for caves within

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
											the Lachlan Fold Belt).
Taemas Limestone	Taemas Limestone	Unnamed	Cave	Blue–grey, thick- to thin- well-bedded or occasionally massive, often richly fossiliferous limestone. Minor impure flaggy limestone, calcareous mudstone or shale, and tuffaceous sandstone.	Shallow Marine - carbonate	Early Devonian	Limestone	No	N/A	29	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Wee Jasper Formation	Wee Jasper Formation	Unnamed	Cave	Fining-upward cycles of red purple–brown conglomerate, cross-bedded sandstone and siltstone, approximately 1760 m thick in type section.	Terrestrial - alluvial fan	Middle Devonian	Siliciclastic sedimentary rock	Yes	Large Bent-winged Bat/Southern Myotis	23	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Wombeyan Limestone	Wombeyan Limestone	Wombeyan Caves	Cave	White to pale grey, massive, fine-to medium-grained marble with clay-rich streaks, calcite veins and uncommon relict fossils.	Shallow Marine - carbonate	Ludlow	Marble	No	N/A	12	Confirmed cave and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).
Mares Forest Volcanics	Mares Forest Volcanics	Wombeyan Caves	Cave	Rhyolitic ignimbrite with minor discontinuous lenses of massive, poorly sorted volcanogenic pebbly sandstone.	Shallow Marine - volcaniclastic	Early Devonian	Pyroclastic rock	No	N/A	12	Confirmed cave and comprised of marine sediments (typical deposition type for caves within

Formation	Unit Name	Feature Name	Feature Type	Feature Description	Deposition Type	Medial Age	Dominant lens	Bat Roost	Bat species record (BioNet 2022)	Distance from project footprint (km)	Justification for being a karstic formation
											the Lachlan Fold Belt).
Yarrangobilly Limestone	Yarrangobilly Limestone	Yarrangobilly Caves	Cave	Massive, recrystallised fossiliferous limestone, sporadic margins recrystallised to calc-silicate hornfels.	Shallow Marine - carbonate	Ludlow	Limestone	Yes	Large Bent-winged Bat	8	Confirmed cave, roost site and comprised of marine sediments (typical deposition type for caves within the Lachlan Fold Belt).

1.1.3 Digital Elevation Model

A Digital Elevation Model (DEM) was used, with 5 m accuracy contour mapping (NSW Elevation and Depth theme contour mapping, Spatial Services 2021), clipped to the Karst Geology layer. The Karst Cave – High potential layer was interrogated spatially, using Orth mosaic aerial imagery.

Areas considered "high potential" for karst formations were those with a slope gradient greater than 30 degrees and intersecting the Karst Geology layer (Table A21- 1). The polygons were produced by the intersection of slopes greater than 30 degrees, and karstic geologies. The areas of high potential were reviewed spatially using the high-resolution aerial imagery, nearby bat records (BioNet 2022), and available field observations (habitat mapping, survey results, vegetation mapping, etc). Polygons were then stratified as low, moderate, or high potential for karsts based on multiple lines of evidence (e.g., presence of nearby records, field observations, photos, lithology, and geological deposition age. Interpretation of high-resolution aerial imagery was also undertaken to identify signs of cliffs, uplift, or other signs of metamorphism), the stratification of karstic potential is below defined in Table A21- 2.

Table A21- 2: Likelihood of karsts criteria

Karst likelihood	Criteria
High	Considered high potential if three or more of the below criteria are met: • High topographic relief determined by high-resolution aerial imagery or DEM, generally steep slope gradient, obvious signs of uplift/ outcropping, overhangs, or dissolution holes (considered typical of limestone caves in the eastern portion of the Lachlan Fold Belt, Osborne 2010)

Karst likelihood	Criteria
	• Underlain with geologies that are consistent with cave systems within in the region, and of the same deposition age • Supports roosting microbats (as determined by published literature and/or the BioNet [DPE 2022] records) • Field-based data has identified areas of potential cave or overhang habitat.
Moderate	Considered moderate potential if two or more of the below criteria are met: • High topographic relief, generally steep slope gradient, signs of outcropping, overhang or resemble a dissolution hole (considered typical of limestone caves in the eastern portion of the Lachlan Fold Belt, Osborne 2010) • Underlain with geologies that are consistent with cave systems within in the region, and of the same deposition age • Has some connectivity with areas considered high potential of being karstic (cave forming) • In proximity to nearby bat records (within 100 m).
Low	Considered low potential if only the below criteria were met: • Underlain with geologies that are consistent with cave systems within in the region, and of the same deposition age.

This method of determining high potential karstic landscapes was developed based on the knowledge of Australian karsts typically having distinctive topography in which the landscapes are largely shaped by the dissolution of carbonate bedrocks. This process results in unusual surface and subsurface features ranging from sinkholes, vertical shafts, disappearing streams, and springs, to complex underground drainage systems and caves (Magee 2009, Osborne 2010, Spate and Baker 2018). Further, Bent-winged bats are known to occupy caves and vertical shafts, with a large, domed chamber providing warm and humid conditions to facilitate growth of the young (like a humidi-crib) (Dwyer and Hamilton-Smith 1965).

From the spatial modelling and desktop review process, areas of high potential for karstic landforms were identified within the Bungonia, Crookwell, Murrumbateman, and Snowy Mountains IBRA subregions of the project footprint (Table A21- 3).

Table A21- 3: High potential karst habitats, and mitigation for Large Bent-winged Bat

Feature	Justification	IBRA Subregion	Species habitat (ha) per IBRA subregion	Area of habitat mapped (ha)	Mitigation measures for high potential karst areas
1	The feature was mapped as 'high' karst potential, as the area is underlain by Abercrombie formation (marine limestone deposits, adjacent to riverbed). The landform has the same geomorphology as Bungonia Caves network, high topographic relief, and nearby Large Bentwing-Bat records 1 km away (BioNet).	**Bungonia**	Large Bent-winged Bat (1.12 ha)	0.10	Area mapped as high potential is 300 m outside the project footprint and is adjacent to a mapped fauna corridor (CRO_6, Figure 13-14), the proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals.
2	The feature was mapped as 'high' karst potential, as the area is underlain by Abercrombie formation (marine limestone deposits, adjacent to riverbed) - The same geomorphology as Bungonia Caves network. Nearby Large Bentwing-Bat records on Tarlo River (BioNet).			0.16	Area mapped as high potential is on the edge of the project footprint and is directly adjacent to the indicative potential access track and transmission line structure bench. The area is within the BUN_8 fauna corridor (Figure 13-14) and is highly connected with the broader surrounds. The proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, re-design where possible to avoid impacts to confirmed roosts.
3	The feature was mapped as 'high' karst potential, as the area is underlain by Abercrombie formation (marine limestone deposits, adjacent to riverbed) - The same geomorphology as Bungonia Caves network. Nearby Large Bentwing-Bat records on Tarlo River (BioNet).			0.05	Area mapped as high potential is on the edge of the project footprint and is directly adjacent to the indicative potential access track and transmission line structure bench. The area is within the BUN_8 fauna corridor (Figure 13-14) and is highly connected with the broader surrounds. The proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, re-design where possible to avoid impacts to confirmed roosts.
4	The feature was mapped as 'high' karst potential, as the area is underlain by Abercrombie formation (marine limestone deposits, adjacent to riverbed). The landform has the same geomorphology as Bungonia Caves network, high topographic relief, and nearby Large Bentwing-Bat records 1 km away (BioNet).			0.01	Area mapped as high potential is on the edge of the project footprint and is directly adjacent to the indicative potential access track and transmission line structure bench. The area is within the BUN_8 fauna corridor (Figure 13-14) and is highly connected with the broader surrounds. The proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, re-design where possible to avoid impacts to confirmed roosts.
5	The feature was mapped as 'high' karst potential, as the area is underlain by			0.19	Area mapped as high potential is on the edge of the project footprint and is directly adjacent to the indicative potential access track and

Feature	Justification	IBRA Subregion	Species habitat (ha) per IBRA subregion	Area of habitat mapped (ha)	Mitigation measures for high potential karst areas
	Abercrombie formation (marine limestone deposits, adjacent to riverbed). The landform has the same geomorphology as Bungonia Caves network, high topographic relief, and nearby Large Bentwing-Bat records 1 km away (BioNet).				transmission line structure bench. The area is within the BUN_8 fauna corridor (Figure 13-14) and is highly connected with the broader surrounds. The proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, re-design where possible to avoid impacts to confirmed roosts.
6	The feature was mapped as 'high' karst potential, as the area is underlain by Abercrombie formation (marine limestone deposits, adjacent to riverbed) - The same geomorphology as Bungonia Caves network. Nearby Large Bentwing-Bat records on Tarlo River (BioNet).			0.19	Area mapped as high potential is on the edge of the project footprint and is directly adjacent to the indicative potential access track and transmission line structure bench. The area is within the BUN_8 fauna corridor (Figure 13-14) and is highly connected with the broader surrounds. The proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, re-design where possible to avoid impacts to confirmed roosts.
7	The feature was mapped as 'high' karst potential, based on field observations, high topographic relief (an incised gully and riverbed), and is underlain with marine limestone. Weathering along bedding planes along is likely to produce solution holes. There are also nearby Large Bent-winged bat records.	**Murrumbateman**	Large Bent-winged Bat (5.75 ha)	0.10	Area mapped as high potential is 360 m outside the project footprint and is adjacent to a mapped fauna corridor (MUR_7), the proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals.
8	The feature was mapped as 'high' karst potential, based on field observations, high topographic relief (an incised gully and riverbed), and is underlain with marine limestone. Weathering along bedding planes along is likely to produce solution holes. There are also nearby Large Bent-winged bat records.			0.21	Area mapped as high potential is 360 m outside the project footprint and is adjacent to a mapped fauna corridor (MUR_7, Figure 13-14), the proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals.
9	The feature was mapped as 'high' karst potential, based on field observations, high topographic relief (an incised gully and riverbed), and is underlain with marine limestone. Weathering along bedding planes along is likely to produce solution			0.08	Area mapped as high potential is 360 m outside the project footprint and is adjacent to a mapped fauna corridor (MUR_7, Figure 13-14), the proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals.

Feature	Justification	IBRA Subregion	Species habitat (ha) per IBRA subregion	Area of habitat mapped (ha)	Mitigation measures for high potential karst areas
	holes. There are also nearby Large Bent-winged bat records.				
10	The feature was mapped as 'high' karst potential, based on field observations, high topographic relief (an incised gully and riverbed), and is underlain with marine limestone. Weathering along bedding planes along is likely to produce solution holes. There are also nearby Large Bent-winged bat records.			0.04	Area mapped as high potential is 360 m outside the project footprint and is adjacent to a mapped fauna corridor (MUR_7, Figure 13-14), the proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals.
11	The feature was mapped as 'high' karst potential, based on high topographic relief (an incised gully area), that is underlain Abercrombie Formation (same geology/formation as Bungonia caves), and same epoch as Yarrangobilly/Coolamon caves. There are also nearby Large Bent-winged bat records.	**Inland Slopes**	Large Bent-winged Bat (0.85 ha)	0.10	Area mapped as high potential is 200 m outside the project footprint and is adjacent to a mapped fauna corridor (INL_17, Figure 13-14), the proposed mitigation measures include: • Pre-construction survey to confirm roosting habitat in the locality • If present, develop adaptive safeguards to mitigate indirect impacts to roosting individuals.

1.1.4 Potential cliffline mapping

Large-eared Pied Bat

Large-eared pied bat is not known to have any maternity cave roost sites in south or south-west NSW (Dwyer 1966, Pennay 2008). Known maternity sites for this species are in northern NSW and includes a granitic mine tunnel (Dwyer 1966) and another sandstone cave in central New South Wales with a low ceiling providing stable temperatures at approximately 15º C (Pennay 2008). Despite this, Large-eared Pied Bat is regarded as a Species Credit Species (for roosting/ foraging habitat) and is also known to occur within the south-east and south-west region of NSW. The species is known to roost in sandstone overhangs, and cliffline habitats. Sandstone cliffs and fertile wooded valley habitat within proximity of each other should be considered habitat critical to the survival of the Large-eared Pied Bat (DECC 2007).

Sooty Owl and Masked Owl

Masked Owl and Sooty Owl roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes in caves for nesting. Masked Owl was identified during spotlighting surveys outside the current project footprint (within Bago State Forest; Bondo IBRA subregion). Areas of typical rocky hillslope and rock overhangs occur throughout the project footprint, in areas with moderate to high topographic relief. Steep cliffs, and overhangs that intersect the project footprint are likely to support microhabitats for both owl species and may also provide potential nest habitat for Sooty Owl.

On that basis, the process for modelling potential cliffline habitat was not reliant on karstic geologies, but rather geomorphology, with the presence of incised sandstone valleys, gorges, fissures, and overhangs. Using a separate DEM layer, with 5 m accuracy and high-resolution ortho mosaic aerial imagery areas with potential cliffline habitat (slope gradient greater than 45 degrees) were filtered as a separate layer for cliffline habitat. The polygons produced by the slope filter were reviewed individually using high-resolution aerial imagery, review of nearby bat records (BioNet 2022) and on-the-ground data collection (habitat mapping, survey results, vegetation mapping etc).

Polygons were considered high potential to support cliffline habitat if the following were present:

- presence of nearby (2 km) cave-dependant bats, and owl records (BioNet 2022)
- Suitable high topographic relief determined by the DEM, generally steep slope gradient, obvious signs of uplift/ outcropping, overhangs, presence of cliff line
- Field collected data supports the presence of overhang habitat, and nearby suitable foraging resources endorsed by vegetation mapping, field notes, and photos
- aerial interpretation showing signs of cliffs, steep gullies etc.

Each mapped feature identified in the cliffline and karst mapping was reviewed manually, and then the final layers were included in the species modelling, where the BAM standards (e.g., PCTs associations, geographical constraints) were also be applied to create species polygons for inaccessible areas (as per Table A21- 4). A detailed description of the species habitat mapping methodology is in Attachment 9 of the BDAR.

Table A21- 4: Species cliffline mapping, and species habitat mapping

Species	IBRA Subregion	Number of cliff/ overhang features mapped	Associated PCTs	IBRA subregion	Geographic constraints	BioNet habitat constraints	Patch size	Vegetation cover (%)	Habitat constraints applied	Species habitat (ha) per IBRA subregion	Extent of proposed impacts to karst, caves, crevices, cliffs, rocks, and other geological features of significance
Large-eared Pied Bat	Bondo	8	PCT 1093 and 1330.	-	None	Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	< 5 ha	11- <30 %	Within 2 km of Potential cliffs (i.e., supplementary cliffline mapping).	-	The project would result in the development of highly permeable structures, with some work proposed to be above ground. Earthworks would be limited to general subsurface work in the locality of the transmission line structures (piling works), ancillary infrastructure, and access roads. Suitable rocky habitat for Large-eared Pied Bat would be avoided. Therefore, no further mitigation is required.
	Bungonia	15		Bungonia	None		< 5 ha	11- <30 %		1.13	
	Inland Slopes	6		-	None		< 5 ha	11- <30 %		-	
	Murrumbateman	7		-	None		< 5 ha	11- <30 %		-	
Sooty Owl	Bondo	8	PCT 638.	-	None	Breeding: Caves or clifflines/ledges; Living or dead trees with hollows greater than 20cm diameter.	>= 100 ha	>70 %	Hollow bearing trees with hollows >20 cm present; Potential cliffs (i.e., supplementary cliffline mapping).	-	The project would result in the development of highly permeable structures, with some work proposed to be above ground. Earthworks would be limited to general subsurface work in the locality of the transmission line structures (piling works), ancillary
	Bungonia	15		-	None		>= 100 ha	>70 %		-	
	Inland Slopes	6		-	None		>= 100 ha	>70 %		-	
	Murrumbateman	7		-	None		>= 100 ha	>70 %		-	

Species	IBRA Subregion	Number of cliff/ overhang features mapped	Associated PCTs	IBRA subregion	Geographic constraints	BioNet habitat constraints	Patch size	Vegetation cover (%)	Habitat constraints applied	Species habitat (ha) per IBRA subregion	Extent of proposed impacts to karst, caves, crevices, cliffs, rocks, and other geological features of significance
	Snowy Mountains	0		Snowy Mountains	None		>= 100 ha	>70 %		46.76	infrastructure, and access roads. Suitable rocky habitat for Sooty Owl would be avoided. Therefore, no further mitigation is required.
Masked Owl	Bondo	8	PCT 266, 277, 280, 290, 294, 638, 870, 953, 1093, 1097, 1107, 1150, 1191 and 1330.	Bondo	None	Breeding: Caves or clifflines/ledges; Living or dead trees with hollows greater than 20cm diameter	>= 100 ha	>70 %	Hollow bearing trees with hollows >20 cm present; Potential cliffs (i.e., supplementary cliffline mapping).	62.77	The project would result in the development of highly permeable structures, with some work proposed to be above ground. Earthworks would be limited to general subsurface work in the locality of the transmission line structures (piling works), ancillary infrastructure, and access roads. Suitable rocky habitat for Masked Owl would be avoided. Therefore, no further mitigation is required.
	Bungonia	15		Bungonia	None		>= 100 ha	>70 %		101.21	
	Inland Slopes	6		Inland Slopes	None		>= 100 ha	>70 %		207.67	
	Murrumbateman	7		-	None		>= 100 ha	>70 %		-	
	Snowy Mountains	0		Snowy Mountains	None		>= 100 ha	>70 %		274.26	

2. Human made structures supporting habitat for threatened fauna species

The assessment of impacts to Human made structures as a result of the project are detailed in Section 12.5.6, Table 13-29 of the BDAR. Table A21- 5 below identifies water crossings that occur within the project footprint likely to support existing culverts and / or bridge structures offering marginal roost habitat for *microchirpotera* species. There are no impacts proposed to existing human-made structures (i.e., culvert/ bridge demolition) as a result of the project. Therefore, impacts to human-made structure have not been addressed further within the BDAR.

Table A21- 5: Existing crossing structures within the project footprint

IBRA Subregion	Catchment Management Authority (CMA)	Sub-CMA	Waterway	Strahler Order	Crossing infrastructure	Impacted by the project	Longitude	Latitude
Bondo	Murrumbidgee	Murrumbidgee - Mid East	Saw Mill Creek	3	Unknown (potentially culvert or bridge)	No impacts (outside the Indicative disturbance area).	148.3522985	-35.11573226
			Snubba Creek	4	Road bridge	No impacts (outside the Indicative disturbance area).	148.1921715	-35.58984254
		Murrumbidgee - Mid West	Uncles Creek	3	Unknown (potentially culvert or bridge)	No impacts (outside the Indicative disturbance area).	148.0566445	-35.41457153
Crookwell	Hawkesbury-Nepean	Hawkesbury Nepean - South	Cowpers Creek	4	Road bridge	No impacts (outside the Indicative disturbance area).	149.8133904	-34.50079057
			Middle Creek	5	Unknown (potentially culvert or bridge)	No impacts (outside the Indicative disturbance area).	149.5358487	-34.58239901
			Unnamed Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	149.6831469	-34.53971536
Inland Slopes	Murrumbidgee	Murrumbidgee - Mid East	Tumut River	8	Road bridge	No impacts (outside the Indicative disturbance area).	148.2166625	-35.2206798
		Murrumbidgee - Mid West	Nacki Nacki Creek	4	Road bridge	No impacts (outside the Indicative disturbance area).	148.0319207	-35.40802253
			Tywong Creek	4	Road bridge	No impacts (outside the Indicative disturbance area).	147.4359145	-35.24294275
			Unnamed Creek	3	Unknown (potentially culvert or bridge)	No impacts (outside the Indicative disturbance area).	147.8052465	-35.35495563
			Yaven Yaven Creek	5	Road bridge	No impacts (outside the Indicative disturbance area).	147.933382	-35.36192052

IBRA Subregion	Catchment Management Authority (CMA)	Sub-CMA	Waterway	Strahler Order	Crossing infrastructure	Impacted by the project	Longitude	Latitude
Murrumbateman	Lachlan	Murrumbidgee - Mid East	Dowlings Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	149.1843401	-34.69269013
		Lachlan - East	Yellow Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	148.9906465	-34.7692129
Snowy Mountains	Murrumbidgee	Murrumbidgee - Mid East	Honeysuckle Creek	4	Unknown (potentially culvert or bridge)	No impacts (outside the Indicative disturbance area).	148.242808	-35.67976512
			Logbridge Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	148.3055481	-35.78477177
			McGregors Gully	3	Road bridge	No impacts (outside the Indicative disturbance area).	148.2473142	-35.7213256
			Stockmans Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	148.2337557	-35.66042406
			Tomneys Plain Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	148.2568945	-35.73488147
			Unnamed Creek	3	Road bridge	No impacts (outside the Indicative disturbance area).	148.2453892	-35.69069595
			Yellowin Creek	3	Unknown (potentially culvert or bridge)	No impacts (outside the Indicative disturbance area).	148.2018606	-35.62386282

3. Habitat connectivity

The assessment of impacts to habitat connectivity as a result of the project is detailed in Section 12.5.3, Table 13-21 and Table 12-22 of the BDAR. The proposed impacts to connectivity, design and mitigation priority areas are highlighted in Figure 13-13 and 13-14, and below in Table A21-6.

Criteria applied to assess existing levels of connectivity and any risk of impact as a result of the project are outlined in Table A21-6.

Table A21- 6: Existing connectivity, and risk of impact criteria

Existing connectivity	Criteria for existing connectivity	Risk of impact to connectivity	Criteria for risk of impacts to connectivity
High	Considered to have **high connectivity** if the any of the below criteria have been met: • High connectivity, and intact with the broader landscape (>100 ha patch size) • Species identified in the locality require larger areas to occupy as part of their home range (e.g., Owls, Gliders) have been identified within the vicinity corridor • The vegetation communities within the corridor are in moderate to very high condition • Field-based data has identified areas of high quality, connected habitats.	**High**	Considered high risk of impact to connectivity if the below criteria are met: • If the proposed full vegetation clearance will effectively segment the remnant into two, or isolate an area of habitat • If a combination of clearances such as, full, partial and hazard tree removal is likely to isolate individuals, or impede terrestrial fauna movement • If species have been recorded in the locality that require large areas as part of their home range (e.g., Owls, Gliders), and a reduced home range is imminent as result of the project • If species have been recorded in the locality that have restricted home ranges (<1 km), and the proposed vegetation clearance, is likely to effectively reduce or isolate habitat in the locality.
Moderate	Considered to have **moderate connectivity** if the below criteria have been met: • Moderately connected with the broader landscape (>50 ha patch size) • Field-based data has identified areas of good quality habitats • Has connectivity in only one stratum layer • The vegetation communities within the corridor are in moderate condition • There is some evidence of fragmentation or edge-effects, however largely intact.	**Moderate**	Considered high risk of impact to connectivity if the below criteria are met: • If the proposed full vegetation clearance will partially segment the remnant, or partially isolate an area of habitat (localised impacts) • If connectivity is to be maintained in at least one stratum layer • If vegetation clearance, is likely to partially impede, or affect fauna movement.
Low	Considered to have **low connectivity** if the below criteria have been met: • Limited connectivity with the broader landscape, signs of fragmentation and devoid of native vegetation	**Low**	Considered low risk of impact to connectivity if the below criteria are met: • If the proposed construction footprint largely avoids any areas of connected, good quality habitat

Existing connectivity	Criteria for existing connectivity	Risk of impact to connectivity	Criteria for risk of impacts to connectivity
	• Field-based data has identified areas of low-quality habitats, and observations of degradation • The vegetation communities within the corridor are non-native, or in low to degraded condition • Low fauna activity, or limited records in the locality.		• If the habitat is already effectively isolated, of low quality or degraded. If vegetation clearance, is likely to partially impede, or affect fauna movement.

Candidate threatened fauna with habitat within or adjacent to connectivity locations are identified in Table A21- 7. Species with restricted home ranges (i.e., < 1kilometre) are shown in bold.

Mitigation measures proposed to address potential project impacts to habitat connectivity are outlined and include species-specific measures to address residual impacts to candidate species where relevant. The recommended mitigation measures should be prioritised within connectivity corridors supporting moderate to high levels of existing connectivity identified as a having a moderate to high risk of impact.

Table A21- 7: Habitat connectivity corridors, risks, and mitigation measures

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_26	High	Koala Swift Parrot Little Eagle	Moderate	<u>High connectivity</u> The vegetation within the corridor mostly consists of good to very good condition grassy woodland (PCTs 314 and 316). <u>Moderate risk of impact</u> Connectivity will be partially reduced in a north-south direction.	• Design vegetation stepping-stones to maintain connectivity • Pre-construction surveys and micro-siting.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
BON_1	High	Gang-gang Cockatoo (confirmed sightings) Powerful Owl (confirmed sightings) Barking Owl Eastern Pygmy-possum Little Eagle Southern Myotis Pink Robin Koala	Moderate	<u>High connectivity</u> The corridor is comprised of a matrix of non-native, moderate to good condition wet sclerophyll forest and dry sclerophyll forest (shrubby sub formation) (PCTs 295 and 199). <u>Moderate risk of impact</u> Partial loss of connectivity is expected in the south-east of the corridor. North-west connectivity will be retained.	• Pre-construction surveys and micro-siting • Reduced vegetation clearance footprints where possible.	No	Bondo
BON_2	High	Little Eagle Swift Parrot Koala Eastern Pygmy-possum Southern Myotis Pink Robin **Pink-tailed Legless Lizard** Bush-stone Curlew Square-tailed Kite Grey-headed Flying-fox	Moderate	<u>High connectivity</u> The vegetation corridor in the locality consists of non-native vegetation, and PCTs 314, 306, 299, and 278, and is connected to remnants in the broader surrounds (patch size >100 ha). <u>Moderate risk of impact</u> The Indicative disturbance area is primarily along the northern edge of the remnant and is unlikely to reduce connectivity significantly, but rather increase edge effects.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/ logs as habitat).	No	Bondo
BUN_1	Low	Regent Honeyeater **Pink-tailed Legless Lizard** **Striped Legless Lizard** Swift Parrot.	Low	<u>Low connectivity</u> The existing landscape connectivity is low, and high fragmented. <u>Low risk of impact</u>	No mitigation measures required.	No	Bungonia

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
				The proposed clearing is localised, and in degraded habitat. It is unlikely to impede local or regional fauna movement. Furthermore, associated candidate bird species in this locality are highly mobile.			
BUN_10	High	Masked Owl Regent Honeyeater Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Barking Owl Powerful Owl Koala Grey-headed Flying-fox	Moderate	<u>High connectivity</u> The vegetation corridor in the locality consists of PCTs 314, 306, 299, and 278 in various conditions, and is connected to remnants in the broader surrounds (patch size > 100 ha). <u>Moderate risk of impact</u> The risk of reduced connectivity is considered moderate with full, and easement clearance and hazard tree removal. Some connectivity will persist; however, mitigation measures should be adopted to facilitate fauna movement in the location.	• Design vegetation stepping-stones to maintain connectivity • Pre-construction surveys and micro-siting.	No	Bungonia

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
BUN_11	Moderate	Gang-gang Cockatoo (multiple records) Little Eagle **Striped Legless Lizard** Koala Regent Honeyeater **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Swift Parrot Barking Owl Masked Owl Powerful Owl Greater Glider Squirrel Glider	Moderate	Moderate connectivity The vegetation corridor in the locality consists of PCTs 314, 306, 299, and 278 in low and moderate conditions, with some fragmentation evident. Moderate risk of impact Full easement clearance is proposed through the remnant. However, connectivity will be retained in the north-west portion and is unlikely to act as a barrier to fauna movement.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/ logs as habitat).	No	Bungonia
BUN_2	Low	Regent Honeyeater **Pink-tailed Legless Lizard** **Striped-legless Lizard** Swift Parrot	Low	Low connectivity The existing landscape connectivity is low, and high fragmented. Low risk of impact The risk to fauna connectivity is low. The remnant is highly fragmented in this locality, and the clearing footprint primarily avoids the vegetation corridor.	No mitigation measures required.	No	Bungonia
BUN_3	Low	Regent Honeyeater **Pink-tailed Legless Lizard** **Striped-legless Lizard** Swift Parrot	Low	Low connectivity The existing landscape connectivity is low, and high fragmented. Low risk of impact The risk to fauna connectivity is low. The remnant is highly fragmented in this locality,	No mitigation measures required.	No	Bungonia

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
				and the clearing footprint primarily avoids the vegetation corridor.			
BUN_4	Low	Regent Honeyeater **Pink-tailed Legless Lizard** **Striped-legless Lizard** Swift Parrot	Low	<u>Low connectivity</u> The remnant is highly fragmented and degraded in this locality. <u>Low risk of impact</u> The risk to fauna connectivity is low. The Indicative disturbance area primarily avoids the vegetation corridor.	No mitigation measures required.	No	Bungonia
BUN_5	Low	Swift Parrot **Striped Legless Lizard** **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper**	Low	<u>Low connectivity</u> The remnant of low-condition PCT 1330 is severely fragmented in the locality. <u>Low risk of impact</u> The proposed clearing on the edge of the remnant is unlikely to significantly impede fauna movement.	No mitigation measures required.	No	Bungonia

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
BUN_6	Moderate	Gang-gang Cockatoo Regent Honeyeater Glossy-Black Cockatoo Little Eagle Swift Parrot Stuttering Frog Southern Myotis Barking Owl Powerful Owl Greater Glider Squirrel Glider Koala Masked Owl	Moderate	Moderate connectivity In this location there is moderate to high east-west connectivity with the broader landscape, and the patch is connected to remnants in the broader landscape (> 50 ha). Moderate risk of impact The proposed vegetation clearance in the locality is likely to partially segment the remnant (localised impacts).	• Spanning of infrastructure above canopy (avoidance of clearing) • Design vegetation stepping-stones to maintain connectivity • Pre-construction surveys and micro-siting.	No	Bungonia
BUN_7	High	Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Stuttering Frog Barking Owl Powerful Owl Greater Glider (confirmed) Squirrel Glider Pink Robin Koala Grey-headed Flying-fox Masked Owl Large Bentwing-bat (confirmed, foraging only)	High	High connectivity In this location there is high east-west connectivity with the broader landscape, and the patch is connected to remnants in the broader landscape (> 100 ha). High risk of impact This location is confirmed habitat for Greater Glider, and the proposed easement will dissect the remnant in two, effectively creating a 70 – 80 m gap between habitats.	• Pre-construction surveys and micro-siting • Reduced vegetation clearance • Installation of artificial connectivity structures (Glider Poles) • Design vegetation stepping-stones to maintain connectivity	**Glider Corridor**	Bungonia

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
BUN_8	High	Masked Owl Regent Honeyeater Gang-gang Cockatoo (confirmed present) Glossy-Black Cockatoo Little Eagle Swift Parrot Barking Owl Powerful Owl Koala Grey-headed Flying-fox	Moderate	<u>High connectivity</u> In this location there is high east-west, and south-east connectivity with the broader landscape, and the patch is connected to remnants in the broader landscape (> 100 ha). <u>Moderate risk of impact</u> The Indicative disturbance area is on the edge of a large remnant, and therefore, unlikely to pose a high risk to fauna movement. It will, however, increase forest edge effects, and localised habitat impacts.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Bungonia
BUN_9	Low	Swift Parrot	Low	<u>Low connectivity</u> The remnant is highly fragmented and degraded in this locality. <u>Low risk of impact</u> The risk to fauna connectivity is low. The remnant is highly fragmented in this locality, and Indicative disturbance area primarily avoids the vegetation corridor.	No mitigation measures required.	No	Bungonia
CRO_1	Moderate	Regent Honeyeater Koala Grey-headed Flying-fox	Moderate	<u>Moderate connectivity</u> The remnant consists of PCT 731 in moderate and low condition, and PCT 335 in high condition. Connectivity is primarily around the riparian corridor, and there is some	• Pre-construction surveys and micro-siting • Co-location of clearing footprint to existing easement.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
				minor evidence of fragmentation. <u>Moderate risk of impact</u> Potential for design changes to follow the existing easement clearing in this locality.			
CRO_11	Low	**Striped Legless Lizard** Little Eagle Regent Honeyeater **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Koala Grey-headed Flying-fox	Low	<u>Low connectivity</u> The remnant is highly fragmented and degraded in this locality. <u>Low risk of impact</u> The existing remnant is highly fragmented. The Indicative disturbance area is on the edge of the remnant and is unlikely to inhibit fauna movement.	No mitigation measures required.	No	Crookwell
CRO_11	Low	**Striped Legless Lizard** Little Eagle Regent Honeyeater **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Koala Grey-headed Flying-fox	Low	<u>Low connectivity</u> The corridor consists of PCT 1330, and in low condition. The existing connectivity is generally low. <u>Low risk of impact</u> The proposed impacts to fauna connectivity are considered low. The remnant is highly fragmented in this locality, and the clearing footprint primarily avoids the vegetation corridor.	No mitigation measures required.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
CRO_12	Moderate	Regent Honeyeater Little Eagle **Key's Matchstick Grasshopper** Koala **Striped Legless Lizard** Grey-headed Flying-fox	Low	<u>Moderate connectivity</u> The remnant consists of PCT 1330 in good condition and non-native roadside vegetation, with some connectivity with the broader landscape. <u>Low risk of impact</u> Given the Indicative disturbance area is primarily on the edge of the remnant the risk to fauna connectivity is considered low.	No mitigation measures required.	No	Crookwell
CRO_13	Moderate	Grey-headed Flying-fox Regent Honeyeater **Pink-tailed Legless Lizard** **Eastern Pygmy-possum** Little Eagle Key's Matchstick Grasshopper Koala	Moderate	<u>Moderate connectivity</u> Scattered remnants of PCT 283 in moderate condition. There is some connectivity along the riparian corridor that intersects the project footprint. <u>Moderate risk of impact</u> The Indicative disturbance area (full clearance) is unlikely to inhibit fauna movement in the locality, however there will be a partial loss to connectivity.	• Pre-construction surveys and micro-siting	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
CRO_14	Moderate	Regent Honeyeater **Eastern Pygmy-possum** Little Eagle Koala	Low	Moderate connectivity Scattered remnants of PCT 283 in moderate condition. There is some connectivity along the riparian corridor that intersects the project footprint. Low risk of impact The proposed Indicative disturbance area is on the edge of the remnant and will not inhibit fauna movement in the locality.	No mitigation measures required.	No	Crookwell
CRO_15	Low	Koala Regent Honeyeater	Low	Low connectivity The remnant is highly fragmented and degraded in this locality. Low risk of impact The Indicative disturbance area is within a scattered remnant; however, the proposed clearing is unlikely to inhibit fauna movement in the locality.	No mitigation measures required.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
CRO_16	Low	Regent Honeyeater Little Eagle **Key's Matchstick Grasshopper** Koala Gang-gang Cockatoo Glossy-Black Cockatoo **Striped Legless Lizard** Powerful Owl Greater Glider Squirrel Glider Swift Parrot Grey-headed Flying-fox	Low	Low connectivity The remnant is highly fragmented and degraded in this locality. Low risk of impact The Indicative disturbance area is within a scattered remnant; however, the proposed clearing is unlikely to inhibit fauna movement in the locality.	• Pre-construction surveys and micro-siting • Reduced vegetation clearance.	No	Crookwell
CRO_17	Moderate	Regent Honeyeater **Key's Matchstick's Grasshopper** Koala **Striped Legless Lizard** Powerful Owl Greater Glider Squirrel Glider	Moderate	Moderate connectivity The remnant has moderate connectivity, with some hazard tree, partial removal and full clearance proposed. Moderate risk of impact The Indicative disturbance area will result in reduced connectivity.	• Pre-construction surveys and micro-siting • Reduced vegetation clearance • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Crookwell
CRO_18	Moderate	**Striped Legless Lizard** Little Eagle Regent Honeyeater **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Koala Grey-headed Flying-fox	Low	Moderate connectivity The remnant has moderate connectivity, with some hazard tree, partial removal and full clearance proposed. Low risk of impact The Indicative disturbance area is on the edge of the remnant, and therefore, fauna movement is unlikely to be inhibited in this locality.	No mitigation measures required.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
CRO_2	Moderate	Squirrel Glider Koala	Moderate	Moderate connectivity The remnant has moderate connectivity, with some hazard tree, partial removal and full clearance proposed. Low risk of impact The Indicative disturbance area will result in reduced connectivity.	• Design vegetation stepping-stones to maintain connectivity • Pre-construction surveys and micro-siting • Design refinement.	No	Crookwell
CRO_3	Moderate	Squirrel Glider Koala	Low	Moderate connectivity The remnant has moderate connectivity, with some hazard tree, partial removal and full clearance proposed. Low risk of impact The risk to connectivity is relatively low in this locality, given that portions of the remnant are fragmented and the Indicative disturbance area, mostly follows the cleared areas.	No mitigation measures required.	No	Crookwell
CRO_4	Moderate	Gang-gang Cockatoo Little Eagle Regent Honeyeater Koala Grey-headed Flying-fox	Low	Moderate connectivity The remnant has moderate connectivity, with some hazard tree, partial removal and full clearance proposed. Low risk of impact The risks to connectivity are considered low. The remnant is connected in northwest-southeast directions. The Indicative disturbance area will not inhibit fauna	No mitigation measures required.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
				movement throughout the landscape.			
CRO_5	Moderate	**Booroolong Frog** **Eastern Pygmy-possum** Little Eagle Koala	Moderate	<u>Moderate connectivity</u> The remnant has moderate connectivity along the riparian corridor, with some hazard tree, partial removal and full clearance proposed. <u>Moderate risk of impact</u> The risk to riparian connectivity in the locality is moderate. The clearing impacts are localised and unlikely to inhibit fauna movement in the locality. However, Booroolong Frog habitat has been mapped in the locality, and therefore, the establishment of biodiversity protection zone, is recommended.	• Pre-construction surveys and micro-siting • Establishment of species biodiversity protection zone.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
CRO_6	Moderate	Gang-gang Cockatoo Little Eagle Regent Honeyeater **Eastern Pygmy-possum** Powerful Owl Greater Glider Squirrel Glider Koala Grey-headed Flying-fox	Low	Moderate connectivity The remnant is large with moderate to high connectivity with the broader landscape. Low risk of impact The risks to fauna connectivity are considered low. The remnant is large with moderate to high connectivity, and the proposed clearing impacts are localised, and unlikely to impede fauna movement.	No mitigation measures required.	No	Crookwell
CRO_7	Low	Little Eagle Regent Honeyeater Koala Grey-headed Flying-fox	Low	Low connectivity The remnant is moderately fragmented. The vegetation consists of PCT 1093 (high and very low condition). Low risk of impact The clearing required is localised and will not inhibit fauna movement within the locality.	No mitigation measures required.	No	Crookwell
CRO_8	Low	Little Eagle Regent Honeyeater Koala Grey-headed Flying-fox	Low	Low connectivity The remnant is highly fragmented and degraded in this locality. Low risk of impact The risks to connectivity are low (proposed clearing on the edge of the isolated remnant).	No mitigation measures required.	No	Crookwell

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
CRO_9	Low	Regent Honeyeater **Pink-tailed Legless Lizard** Little Eagle **Key's Matchstick Grasshopper** Koala Gang-gang Cockatoo Glossy-Black Cockatoo **Striped Legless Lizard** Powerful Owl Greater Glider Squirrel Glider	Moderate	<u>Low connectivity</u> The remnant is highly fragmented and degraded in this locality. <u>Moderate risk of impact</u> The proposed Indicative disturbance area in this locality will reduce overall connectivity in the southern portion of the patch and reduce the overall dispersibility of small terrestrial fauna species.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Crookwell
INL_1	Low	**Key's Matchstick Grasshopper** Swift Parrot **Pink-tailed Legless Lizard** **Striped Legless Lizard** Koala Squirrel Glider Superb Parrot Gang-gang Cockatoo Little Eagle Square-tailed Kite Barking Owl Masked Owl Regent Honeyeater Bush-stone Curlew	Low	<u>Low connectivity</u> There is low riparian connectivity along Cooks Creek (consisting of PCT 277 and 278). <u>Low risk of impact</u> Partial clearing and hazard tree removal are proposed, however, the impacts to connectivity are considered low.	No mitigation measures required.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_10	Moderate	Square-tailed Kite Swift Parrot Regent Honeyeater **Pink-tailed Legless Lizard** Bush-stone Curlew Gang-gang Cockatoo Little Eagle Barking Owl Squirrel Glider Koala Masked Owl	Moderate	Moderate connectivity The fauna corridor consists of grassy woodland and derived native grasslands and is connected to Killimicat Creek and Mudjarn Nature Reserve. Moderate risk of impact The proposed clearing requirements will impede fauna movement to the south-east of the project footprint.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Inland Slopes
INL_11	Moderate	Swift Parrot Regent Honeyeater Sloane's Froglet Koala Little Eagle **Key's Matchstick Grasshopper** Square-tailed Kite	Low	Moderate connectivity The connectivity in the locality is primarily the riparian corridors of the Tumut River and Gocup River. Low risk of impact Partial clearing and hazard tree removal are proposed, however, the impacts to connectivity are considered low.	No mitigation measures required.	No	Inland Slopes
INL_13	Low	Swift Parrot Regent Honeyeater Sloane's Froglet Southern Myotis Squirrel Glider Koala Superb Parrot Grey-headed Flying-fox	Low	Low connectivity The riparian corridor of Sandy Creek consists of PCT 5. Low risk of impact The proposed works in this locality consists of easement clearing, hazard tree removal and spanning.	No mitigation measures required.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_14	Moderate	Little Eagle Swift Parrot Koala	Low	Moderate connectivity The vegetation consists of non-native and PCT 306 in the locality and has moderate connectivity. Low risk of impact The clearing required will result in an increased fragmentation, however, is unlikely to impede fauna movement in the locality. Furthermore, spanning will be used.	No mitigation measures required.	No	Inland Slopes
INL_15	Moderate	Little Eagle Swift Parrot Koala **Eastern Pygmy-possum**	Moderate	Moderate connectivity The vegetation in the locality consists of PCT 314. Moderate risk of impact There will be hazard tree removal, easement, and full clearance, which may inhibit movement in a north-south direction in some locations, however, unlikely to fully isolate individuals.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/ logs as habitat).	No	Inland Slopes
INL_16	Low	Koala Square-tailed Kite Regent Honeyeater **Pink-tailed Legless Lizard** Bush-stone Curlew Little Eagle Swift Parrot	Moderate	Low connectivity The patch of PCT 280 is effectively isolated (low connectivity). Moderate risk of impact The proposed clearing footprint runs parallel to an existing easement, the additional clearing will further	• Reduced vegetation clearance • Design vegetation stepping-stones to maintain connectivity • Design and installation of ground refugia (creation and re-use of timber/ logs as habitat) • Co-location of clearing footprint to existing easement.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
				isolate remnants on either side.			
INL_17	High	**Pink-tailed Legless Lizard** Little Eagle Swift Parrot Koala	Moderate	<u>High connectivity</u> The corridor consists of PCTs 280, 290, 297 and 288, with high connectivity with the broader landscape. <u>Moderate risk of impact</u> Connectivity in a north-south direction is likely to be reduced by the proposed clearing.	• Pre-construction surveys and micro-siting	No	Inland Slopes
INL_18	Low	Grey-headed Flying-fox Swift Parrot Sloane's Froglet **Pink-tailed Legless Lizard** Little Eagle **Key's Matchstick Grasshopper** Square-tailed Kite Koala	Low	<u>Low connectivity</u> Low conductivity along the riparian corridor, but highly fragmented. <u>Low risk of impact</u> The risk of further reducing riparian connectivity is considered low, due to spanning and avoidance of clearing.	No mitigation measures required.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_19	Low	Swift Parrot Regent Honeyeater Squirrel Glider Koala **Striped Legless Lizard** **Key's Matchstick Grasshopper** **Pink-tailed Legless Lizard** Gang-gang Cockatoo Superb parrot Square-tailed Kite Bush-stone Curlew Little Eagle	Low	<u>Low connectivity</u> The vegetation consists of PCT 268, the canopy is sparse and scattered in portions of the corridor, with evidence of previous clearing. <u>Low risk of impact</u> The Indicative disturbance area may inhibit movement in portions of the corridor.	No mitigation measures required.	No	Inland Slopes
INL_2	Low	Koala **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Swift Parrot Squirrel Glider Superb Parrot	Low	<u>Low connectivity</u> Connectivity is restricted to the riparian corridor of Fairy Hole Creek. The vegetation consists of PCT 278 (moderate condition). <u>Low risk of impact</u> Clearing included partial easement clearing and hazard tree removal, however, is unlikely to impede fauna movement.	• Pre-construction surveys and micro-siting • Spanning of infrastructure above canopy (avoidance of clearing).	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_20	Moderate	Swift Parrot Regent Honeyeater Bush-stone Curlew Gang-gang Cockatoo **Striped Legless Lizard** Little Eagle **Key's Matchstick Grasshopper** Square-tailed Kite Barking Owl Squirrel Glider Koala Superb Parrot Masked Owl	Low	Moderate connectivity The corridor is partially fragmented, but with some connectivity with the broader landscape. Low risk of impact Where the Indicative disturbance area is proposed, it is unlikely to significantly impede fauna movement, and connectivity in the locality.	• Design and installation of ground refugia (creation and re-use of timber/ logs as habitat). • Pre-construction surveys and micro-siting.	No	Inland Slopes
INL_21	Low	Regent Honeyeater Bush-stone Curlew **Key's Matchstick Grasshopper** **Striped Legless Lizard** Little Eagle Swift Parrot Square-tailed Kite Koala Grey-headed Flying-fox	Low	Low connectivity Low conductivity along the riparian corridor, but highly fragmented. Low risk of impact The existing corridor is fragmented. However, the Indicative disturbance area is unlikely to be fragmented further.	No mitigation measures required.	No	Inland Slopes
INL_23	Moderate	Regent Honeyeater Swift Parrot Southern Myotis Koala Grey-headed Flying-fox	Moderate	Moderate connectivity The connectivity is restricted to the riparian corridor (PCT 5). Moderate risk of impact The proposed clearing may reduce movement for some smaller, less transient species.	• Reduced vegetation clearance • Spanning of infrastructure above canopy (avoidance of clearing)	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_24	Low	**Key's Matchstick Grasshopper** **Pink-tailed Legless Lizard** **Striped Legless Lizard** Swift Parrot	Low	Low connectivity The corridor is disturbed, and consists of low-condition PCT 277, and non-native vegetation. Low risk of impact The proposed clearing is unlikely to impede fauna movement in the locality.	No mitigation measures required.	No	Inland Slopes
INL_25	Moderate	Booroolong Frog **Pink-tailed Legless Lizard** Regent Honeyeater Southern Myotis Glossy Black-Cockatoo Koala	Moderate	Booroolong Frog habitat (DPE mapping) in the locality. Establishment of species biodiversity protection zone within the riparian corridor is recommended.	• Pre-construction surveys and micro-siting • Establishment of species biodiversity protection zone.	No	Inland Slopes
INL_3	Low	Swift Parrot Superb Parrot Grey-headed Flying-fox	Low	Low connectivity The riparian corridor consists of non-native vegetation and low-condition PCT 277. Low risk of impact There is no proposed work in this locality that will impact connectivity.	No mitigation measures required.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_4	Moderate	**Striped Legless-Lizard** **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Koala Southern Myotis Grey-headed Flying-fox Golden Sun Moth Regent Honeyeater Swift Parrot	Low	Moderate connectivity The connectivity is restricted to the riparian corridor (PCT 5). Low risk of impact Riparian connectivity along the Murrumbidgee River is unlikely to impede fauna movement significantly due to spanning.	No mitigation measures required.	No	Inland Slopes
INL_5	Moderate	Swift Parrot **Key's Matchstick Grasshopper** Regent Honeyeater **Pink-tailed Legless Lizard** Bush-stone Curlew Gang-gang Cockatoo Glossy-Black Cockatoo Sloane's Froglet Little Eagle Square-tailed Kite Barking Owl Masked Owl Squirrel Glider Koala Superb Parrot Grey-headed Flying-fox	Low	Moderate connectivity The corridor is partially fragmented, but with some connectivity with the broader landscape. Low risk of impact The risk to existing fauna connectivity in the locality is low. The area within the Indicative disturbance area, is already fragmented.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_6	Moderate	Southern Myotis (confirmed) Large Bentwing-bat (foraging-confirmed) Gang-gang Little Eagle Square-tailed Kite Barking Owl Masked owl Squirrel Glider Bush-stone Curlew Swift Parrot **Key's Matchstick Grasshopper** Regent Honeyeater **Pink-tailed Legless Lizard** Glossy Black Cockatoo Koala Superb Parrot	Moderate	<u>Moderate connectivity</u> The corridor is partially fragmented, but with some connectivity with the broader landscape. <u>Moderate risk of impact</u> High-condition grassy woodland (PCT 266) to be segmented. However, the proposed clearing may inhibit some localised fauna movement.	• Pre-construction surveys and micro-siting • Design vegetation stepping-stones to maintain connectivity • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).		Inland Slopes
INL_7	Moderate	**Pink-tailed Legless Lizard** Gang-gang Cockatoo Little Eagle **Key's Matchstick Grasshopper** Swift Parrot Square-tailed Kite Barking Owl Squirrel Glider Superb Parrot	Low	<u>Moderate connectivity</u> Consists of moderate-condition grassy woodland habitat along the riparian corridor (PCT 278). <u>Low risk to connectivity</u> There are minimal risks to connectivity in the locality.	No mitigation measures required.	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
INL_8	Low	**Key's Matchstick Grasshopper** Regent Honeyeater Bush-stone Curlew Koala Swift Parrot **Striped Legless Lizard** Little Eagle Square-tailed Kite Grey-headed Flying-fox **Pink-tailed Legless Lizard**	High	Moderate connectivity The connectivity is restricted to the riparian corridor (PCT 5). High risk of impact The Indicative disturbance area will reduce connectivity in the locality (riparian crossing).	• Design and installation of ground refugia (creation and re-use of timber/logs as habitat) • Pre-construction surveys and micro-siting • Investigation into appropriate deterrent devices is recommended.		Inland Slopes
INL_9	Moderate	Gang-gang Cockatoo (confirmed) Powerful Owl (confirmed) Swift Parrot **Pink-tailed Legless Lizard** Regent Honeyeater Bush-stone Curlew **Eastern Pygmy-possum** Little Eagle Square-tailed Kite Koala Grey-headed Flying-fox	High	Moderate connectivity The connectivity within the locality is comprised of a matrix of non-native vegetation, native grasslands, and grassy woodlands (PCTs 268, 278, 280). High risk of impact The Indicative disturbance area has the potential to reduce connectivity in a south-west direction.	• Design vegetation stepping-stones to maintain connectivity • Pre-construction surveys and micro-siting	No	Inland Slopes

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
MUR_1	Moderate	Swift Parrot Square-tailed Kite Grey-headed Flying-fox Regent Honeyeater Gang-gang Cockatoo **Eastern Pygmy-possum** Little Eagle **Key's Matchstick's Grasshopper** Powerful Owl Squirrel Glider Koala	Moderate	Moderate connectivity The corridor is partially fragmented, but with some connectivity with the broader landscape. Moderate risk of impact There is a moderate risk of reduced fauna connectivity in the locality.	• Pre-construction surveys and micro-siting • Spanning of infrastructure above canopy (avoidance of clearing).	No	Murrumbateman
MUR_10	Low	**Pink-tailed Legless Lizard** Swift Parrot Regent Honeyeater Gang-gang Cockatoo Little Eagle Square-tailed Kite Squirrel Glider Koala Superb Parrot	Low	Low connectivity The existing connectivity is low to moderate. Low risk of impact The proposed work within the locality is unlikely to impede fauna movement.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Murrumbateman

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
MUR_11	Low	**Striped Legless Lizard** **Pink-tailed Legless Lizard** **Key's Matchstick Grasshopper** Southern Myotis Koala Grey-headed Flying-fox Golden Sun Moth Regent Honeyeater Swift Parrot	Moderate	Low connectivity The connectivity corridor consists of riparian and grassland habitats in the locality. Moderate risk of impact The proposed construction in this location will reduce riparian connectivity (water crossing), and grassland connectivity.	• Pre-construction surveys and micro-siting • Design and installation of ground refugia (creation and re-use of timber/logs as habitat).	No	Murrumbateman
MUR_2	Moderate	Large Bent-winged Bat (foraging only) Squirrel Glider (confirmed present) Gang-gang Cockatoo **Striped Legless Lizard** Regent Honeyeater **Eastern Pygmy-possum** Little Eagle **Key's Matchstick Grasshopper** Swift Parrot Southern Myotis Powerful Owl Greater Glider Koala Superb Parrot Grey-headed Flying-fox Glossy-Black Cockatoo	High	Moderate connectivity The corridor is partially fragmented, but with some connectivity with the broader landscape. High risk of impact The risk of impacts to connectivity are considered high. Connectivity structures should be considered in this location to facilitate fauna movement, such as stepping-stone vegetation, ground refugia, glider poles, and if possible, reduce overall clearing in this area.	• Design and installation of ground refugia (creation and re-use of timber/logs as habitat) • Artificial connectivity structures (glider poles) • Reduce vegetation clearing requirements, Pre-construction surveys and micro-siting.	**Glider Corridor**	Murrumbateman

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
MUR_3	Moderate	Little Eagle (confirmed) Gang-gang Cockatoo **Striped Legless Lizard** Regent Honeyeater Eastern Pygmy-possum **Key's Matchstick Grasshopper** Swift Parrot Southern Myotis Powerful Owl Greater Glider Squirrel Glider Koala Superb Parrot	Moderate	Moderate connectivity The corridor is partially fragmented, but with some connectivity with the broader landscape. Moderate risk of impact The risk of reduced fauna connectivity is moderate (areas of partial and full clearing, and hazard tree removal). Some connectivity will be retained.	• Design vegetation stepping-stones to maintain connectivity • Pre-construction surveys and micro-siting	No	Murrumbateman
MUR_4	Moderate	Regent Honeyeater Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Square-tailed Kite Powerful Owl Greater Glider Squirrel Glider Koala	Low	Moderate connectivity The corridor is partially fragmented, but with some connectivity with the broader landscape. Low risk of impact The risk of reduced connectivity is considered low (only a small area of full clearance is required).	• Pre-construction surveys and micro-siting • Design vegetation stepping-stones to maintain connectivity.	No	Murrumbateman

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
MUR_5	High	**Eastern Pygmy-possum** Powerful Owl Regent Honeyeater Gang-gang Cockatoo (confirmed) Glossy-Black Cockatoo Little Eagle Swift Parrot Square-tailed Kite Squirrel Glider Koala Greater Glider.	Moderate	<u>High connectivity</u> In this location there is high east-west, and south-east connectivity with the broader landscape, and the patch is connected to remnants in the broader landscape (> 100 ha). <u>Moderate risk of impact</u> The proposed clearing requirements (full and partial clearing, and hazard tree removal) pose a moderate risk to fauna connectivity, if not mitigated appropriately.	• Design vegetation stepping-stones to maintain connectivity.	No	Murrumbateman
MUR_6	Moderate	Regent Honeyeater **Pink-tailed Legless Lizard** Gang-gang Cockatoo Glossy-Black Cockatoo **Striped Legless Lizard** Little Eagle **Key's Matchstick Grasshopper** Swift Parrot Southern Myotis Powerful Owl Greater Glider Squirrel Glider Koala Superb Parrot (confirmed)	Moderate	<u>Moderate connectivity</u> The scattered remnant appears to have moderate to high connectivity with the broader landscape (Bango Nature Reserve). <u>Moderate risk of impact</u> The proposed clearing requirements (full and partial clearing, and hazard tree removal) pose a moderate risk to fauna connectivity, if not mitigated appropriately. Stepping habitat/ground refugia to be implemented to maintain the corridor. Also, Superb Parrot was observed in this locality.	• Review of nearby records (for fauna injury/mortality records) • Design and installation of ground refugia (creation and re-use of timber/logs as habitat) • Pre-construction surveys and micro-siting.	No	Murrumbateman

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
MUR_7	Moderate	**Key's Matchstick Grasshopper** **Golden Sun Moth** **Pink-tailed Legless Lizard** **Striped Legless Lizard** Swift Parrot Yellow-spotted Tree Frog Gang-gang Cockatoo Glossy-Black Cockatoo Regent Honeyeater **Eastern Pygmy-possum** Grey-Headed Flying-fox Little Eagle Southern Myotis Koala Powerful Owl Squirrel Glider Superb Parrot	Moderate	Moderate connectivity Moderate connectivity along riparian corridors, and moderate risk to connectivity. Moderate risk of impact The proposed clearing requirements (full and partial clearing, and hazard tree removal) pose a moderate risk to fauna connectivity, if not mitigated appropriately.	• Design vegetation/remnant stepping-stones • Spanning of infrastructure above canopy (avoidance of clearing) • Investigation into appropriate deterrent devices is recommended.	No	Murrumbateman
MUR_8	Low	Little Eagle Swift Parrot Koala Grey-headed Flying-fox	Low	Low connectivity The remnant is fragmented, and the existing connectivity is considered low. Low risk of impact Minimal clearing is proposed in this location, and therefore the risk of reduced connectivity is considered low.	• Pre-construction surveys and micro-siting.	No	Murrumbateman

Corridor ID	Existing connectivity	Associated candidate species	Risk of impacts to connectivity	Existing connectivity and risk of impact	Recommended mitigation measures	Glider Corridor	IBRA subregion
MUR_9	Moderate	Little Eagle **Pink-tailed Legless Lizard** Swift Parrot Koala	Low	Moderate connectivity The remnant consists of PCT 351 in moderate condition. Low risk of impact The clearing required includes full and partial clearing, and hazard tree removal. However, moderate connectivity should be maintained.	• Pre-construction surveys and micro-siting • Spanning of infrastructure above canopy (avoidance of clearing).	No	Murrumbateman
SNO_1	High	Gang-gang Cockatoo (multiple records) Barking Owl (confirmed) Greater Glider (confirmed) Pink Robin Little Eagle Square-tailed Kite Koala **Eastern Pygmy-possum** Powerful Owl Squirrel Glider Brush-tailed Phascogale Masked Owl Spotted Tree Frog **Smoky Mouse** Flame Robin (recorded)	Moderate	High connectivity In this location there is high east-west, and south-east connectivity with the broader landscape, and the patch is connected to remnants in the broader landscape (> 100 ha). Moderate risk of impact The remnant is highly connected, with a matrix of dry sclerophyll forest, wet sclerophyll, and montane forests. For small terrestrial species, the proposed clearing has the possibility of isolating individuals, and reducing local fauna movement. Regional fauna movement may also be at risk without appropriate mitigation measures applied.	• Reduced vegetation clearance • Artificial connectivity structures (glider poles) • Design vegetation stepping-stones to maintain connectivity	**Glider Corridor**	Snowy Mountains

4. Collision risks for candidate threatened fauna

The assessment of impacts associated with collision risk, electrocution and entanglement are detailed in Section 12.5.3, Table 13-21 and Table 12-22 of the BDAR and Table A21-8 below. Assessed locations are shown Figure 13-15 and Figure 13-16. Candidate threatened and migratory fauna identified as having a potential risk of collision, entanglement or electrocution as a result of the project are also outlined below.

Criteria used to assess collision, entanglement or electrocution risk is outlined below in Table A21-87.

Table A21- 8: Existing risk collision, entanglement or electrocution criteria

Risk of impact to connectivity	Criteria for risk of impacts to connectivity
High	Considered high risk of collision, entanglement, or electrocution if the below criteria are met: • If the proposed transmission line is within proximity to a large remnant with high connectivity, with multiple avifauna records, including raptors, migratory birds, or Grey-headed Flying-fox records. • If the proposed construction is in proximity of avifauna records with signs of injury, electrocution, or death (BioNet 2023). • Within 1 km of a major waterbody or wetland with multiple waterbird, or migratory bird records. • Less than 10 km from a known flying-fox camp.
Moderate	Considered moderate risk of collision if the below criteria are met: • If the proposed transmission line is within proximity to a large remnant with high connectivity, with several avifauna records, including raptors, migratory birds, or Grey-headed Flying-fox records. • If the proposed construction is in proximity of avifauna records with signs of injury, electrocution, or death (BioNet 2023). • Within 5 km of a major waterbody or wetland with multiple waterbird, or migratory bird records. • Less than 20 km from a known flying-fox camp.
Low	Considered low risk of collision if the below criteria are met: • If there are no nearby records of highly mobile avifauna species (e.g., including raptors, migratory birds, or Grey-headed Flying-fox records). • If the habitat is already effectively isolated, of low quality or degraded.

Mitigation measures proposed to address potential project impacts are outlined and include species-specific measures to address residual impacts where relevant.

Table A21- 9: Terrestrial connectivity impacts – Collison, entanglement, and electrocution

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
INL_26	Swift Parrot Little Eagle	Low	The risk of collision/ entanglement is relatively low in this location due to the existing fragmentation.	No mitigation measures required.	Inland Slopes
BON_1	BAM candidate species Gang-gang Cockatoo (confirmed sightings) Powerful Owl (confirmed sightings) Barking Owl Little Eagle Southern Myotis Pink Robin BioNet records (2023) Grey-headed Flying-fox (multiple records) Migratory species (BioNet 2023) White-throated Needletail Common Sandpiper	Moderate	The risk of collision/ entanglement is considered moderate, with new forest edges and gaps created. Further, migratory waterbirds, Grey-headed Flying-fox and raptors occur in the locality.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision.	Bondo
BON_2	Little Eagle Swift Parrot Southern Myotis Pink Robin Square-tailed Kite Grey-headed Flying-fox	Low	The risk of collision/ entanglement is relatively low in this location due to the existing fragmentation.	No mitigation measures required.	Bondo
BUN_1	Regent Honeyeater Swift Parrot.	Low	The risk of collision/ entanglement is relatively low in this location due to the existing fragmentation and low avifauna levels observed during surveys.	No mitigation measures required.	Bungonia

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
BUN_10	Masked Owl Regent Honeyeater Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Barking Owl Powerful Owl Grey-headed Flying-fox	Low	The risk of collision is low. No nearby records of migratory birds or raptors.	No mitigation measures required.	Bungonia
BUN_11	Gang-gang Cockatoo (multiple records) Little Eagle Regent Honeyeater Swift Parrot Barking Owl Masked Owl Powerful Owl Greater Glider Squirrel Glider	Low	The risk of collision is low. No nearby records of migratory birds or raptors.	No mitigation measures required.	Bungonia
BUN_2	Regent Honeyeater Swift Parrot	Low	Low risk of entanglement and collision due to the landscape being fragmented and generally low levels of avifauna activity being observed in the locality.	No mitigation measures required.	Bungonia
BUN_3	Regent Honeyeater Swift Parrot	Low	The risk of entanglement is low in the locality. Highly fragmented landscape and low levels of avifauna activity, generally.	No mitigation measures required.	Bungonia
BUN_4	Regent Honeyeater Swift Parrot	Low	The risk of entanglement is low in the locality. Highly fragmented landscape and low levels of avifauna activity, generally.	No mitigation measures required.	Bungonia

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
BUN_5	Swift Parrot	Low	The risk of entanglement is low in the locality. The remnant is moderate to severely fragmented and avifauna levels are generally low in the locality.	No mitigation measures required.	Bungonia
BUN_6	Gang-gang Cockatoo Regent Honeyeater Glossy-Black Cockatoo Little Eagle Swift Parrot Southern Myotis Barking Owl Powerful Owl Greater Glider Squirrel Glider Masked Owl	Moderate	The transmission line is to dissect a large woodland remnant, with moderate to high avifauna activity observed.	• Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Pre-construction surveys and micro-siting.	Bungonia
BUN_7	Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Barking Owl Powerful Owl Greater Glider (confirmed) Squirrel Glider Pink Robin Grey-headed Flying-fox Masked Owl Large Bentwing-bat (confirmed, foraging only) BioNet records (2023) Grey-headed Flying-fox records	High	Large remnant with high connectivity. Multiple Wedge-tailed Eagle, and Grey-headed Flying-fox records in the locality.	• Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Pre-construction surveys and micro-siting. • Investigation into appropriate deterrent devices is recommended • Reduced vegetation clearance.	Bungonia

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
BUN_8	Masked Owl Regent Honeyeater Gang-gang Cockatoo (confirmed present) Glossy-Black Cockatoo Little Eagle Swift parrot Barking Owl Powerful Owl Grey-headed Flying-fox	Low	The risk of entanglement is low in the locality. The clearing limits and indicative transmission line structures are on the edge of the remnant, with potential spanning to occur.	No mitigation measures required.	Bungonia
BUN_9	Swift Parrot	Low	The risk of entanglement is low in the locality. No nearby records of avifauna prone to entanglement/ collision (e.g., migratory birds, raptors, or Grey-headed Flying-fox).	No mitigation measures required.	Bungonia
CRO_1	Regent Honeyeater Koala Grey-headed Flying-fox	Low	The risk of entanglement is low in the locality. No nearby records of avifauna prone to entanglement/ collision (e.g., migratory birds, raptors, or Grey-headed Flying-fox).	No mitigation measures required.	Crookwell
CRO_11	Little Eagle Regent Honeyeater Grey-headed Flying-fox	Low	No nearby records of avifauna species that are prone to entanglement/ collision.	No mitigation measures required.	Crookwell
CRO_11	Little Eagle Regent Honeyeater Grey-headed Flying-fox	Low	The risk of entanglement is low in the locality. No nearby at-risk avifauna species records.	No mitigation measures required.	Crookwell

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
CRO_12	Regent Honeyeater Little Eagle Grey-headed Flying-fox	Low	The risk of entanglement is low in the locality. No nearby waterbirds, migratory birds, raptors, or Grey-headed Flying-fox records in the vicinity.	No mitigation measures required.	Crookwell
CRO_13	Grey-headed Flying-fox Regent Honeyeater Little Eagle	Low	The risk of entanglement is low in the locality. No nearby records of avifauna prone to entanglement/ collision (e.g., migratory birds, raptors, or Grey-headed Flying-fox).	No mitigation measures required.	Crookwell
CRO_14	Regent Honeyeater Little Eagle	Low	The risk of entanglement is low in the locality. This is based on review of records, nature of the proposed works and the species habitat that has been mapped.	No mitigation measures required.	Crookwell
CRO_15	Regent Honeyeater	Low	Based on nearby records, and the proposed construction in the locality, the risk of collision/entanglement is considered low.	No mitigation measures required.	Crookwell
CRO_16	Regent Honeyeater Little Eagle Gang-gang Cockatoo Glossy-Black Cockatoo Powerful Owl Greater Glider Squirrel Glider Swift Parrot Grey-headed Flying-fox	Low	Low risk of collision/ entanglement.	No mitigation measures required.	Crookwell

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
CRO_17	Regent Honeyeater Koala Powerful Owl Greater Glider Squirrel Glider	Low	Low risk of collision/ entanglement.	No mitigation measures required.	Crookwell
CRO_18	Striped Legless Lizard Little Eagle Regent Honeyeater Koala Grey-headed Flying-fox	Low	Collision/ entanglement risk is considered low in the locality.	No mitigation measures required.	Crookwell
CRO_2	Squirrel Glider	Low	No nearby records of avifauna prone to collision/ entanglement (e.g., migratory birds, raptors, Grey-headed Flying-fox).	No mitigation measures required.	Crookwell
CRO_3	Squirrel Glider	Low	The risk of collision/entanglement is considered low. No nearby records of migratory birds, raptors, or Grey-headed Flying-fox in the locality.	No mitigation measures required.	Crookwell
CRO_4	Gang-gang Cockatoo Little Eagle Regent Honeyeater Grey-headed Flying-fox	Moderate	The risk of collision and entanglement is considered moderate in the locality (Grey-headed flying-fox habitat is mapped).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision.	Crookwell
CRO_5	Little Eagle	Low	The risk of collision/ entanglement in this location is considered low. There are no nearby records of avifauna that is prone to entanglement/ collision (e.g., waterbirds, migratory birds, raptors, or flying foxes).	No mitigation measures required.	Crookwell

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
CRO_6	Gang-gang Cockatoo Little Eagle Regent Honeyeater Powerful Owl Greater Glider Squirrel Glider Grey-headed Flying-fox	Low	The risk of collision/ entangling is considered low. Grey-headed flying-fox foraging habitat has been mapped, however, there is no nearby records of avifauna prone to this risk.	No mitigation measures required.	Crookwell
CRO_7	Little Eagle Regent Honeyeater Grey-headed Flying-fox	Moderate	The risk of collision in the locality is moderate (nearby Wedge-tailed Eagle records and Grey-headed Flying-fox records). Resident fauna is likely to become accustomed to these new structures overtime.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision.	Crookwell
CRO_8	Little Eagle Regent Honeyeater Grey-headed Flying-fox	Moderate	The risk of collision is moderate, with nearby records of Grey-headed Flying-fox and Wedge-tailed Eagle.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision.	Crookwell
CRO_9	Regent Honeyeater Little Eagle Gang-gang Cockatoo Glossy-Black Cockatoo Powerful Owl Greater Glider Squirrel Glider	Moderate	The risk of collision/ entanglement is considered moderate in the locality. There are waterbird records along the Tarlo River (adjacent to the remnant).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Crookwell

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
INL_1	Swift Parrot Squirrel Glider Superb Parrot Gang-gang Cockatoo Little Eagle Square-tailed Kite Barking Owl Masked Owl Regent Honeyeater	Low	The risk of collision and entanglement is considered low.	No mitigation measures required.	Inland Slopes
INL_10	Square-tailed Kite Swift Parrot Regent Honeyeater Gang-gang Cockatoo Little Eagle Barking Owl Squirrel Glider Masked Owl	Low	The risk of entanglement and collision is considered low based on nearby records.	No mitigation measures required.	Inland Slopes
INL_11	Swift Parrot Regent Honeyeater Little Eagle Square-tailed Kite	Low	The risk of collision/ entanglement is considered low based on a review of fauna records, the nature of the proposal in the locality, and species habitat that has been mapped.	No mitigation measures required.	Inland Slopes
INL_13	Swift Parrot Regent Honeyeater Southern Myotis Squirrel Glider Superb Parrot Grey-headed Flying-fox	Low	The risk of collision/entanglement is considered low based on a review of records, habitat mapped and the nature of the proposed works.	No mitigation measures required.	Inland Slopes
INL_14	Little Eagle Swift Parrot	Low	The risk of collision is considered low in the locality.	No mitigation measures required.	Inland Slopes

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
INL_15	Little Eagle Swift Parrot	Low	The risk of collision is considered low in the locality.	No mitigation measures required.	Inland Slopes
INL_16	Square-tailed Kite Regent Honeyeater Little Eagle Swift Parrot	Low	The risk of collision is considered low in the locality.	No mitigation measures required.	Inland Slopes
INL_17	Little Eagle Swift Parrot	Moderate	Nearby Grey-headed Flying-fox camp in Tarcutta, and collision/ electrocution records (10 km north of the project footprint).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Inland Slopes
INL_18	Grey-headed Flying-fox Swift Parrot Little Eagle Square-tailed Kite	Moderate	The risk of collision is considered moderate based on proximity of wildlife rehabilitation records for Grey-headed Flying-fox and nearby waterbird records.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Inland Slopes
INL_19	Swift Parrot Regent Honeyeater Squirrel Glider Gang-gang Cockatoo Superb parrot Square-tailed Kite Little Eagle	Moderate	The risk of collision is considered moderate based on proximity of wildlife rehabilitation records for Grey-headed Flying-fox and nearby waterbird records. Further, there are nearby Grey-headed Flying-fox collision/ electrocution records.	• Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Inland Slopes

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
INL_2	Swift Parrot Squirrel Glider Superb Parrot	Low	The risk of collision/ entanglement is considered low, based on review of records, field observation, existing vegetation mapping and the proposed construction in the locality	No mitigation measures required.	Inland Slopes
INL_20	Swift Parrot Regent Honeyeater Gang-gang Cockatoo Little Eagle Square-tailed Kite Barking Owl Squirrel Glider Superb Parrot Masked Owl	Low	The risk of collision is considered low in this fragmented landscape.	No mitigation measures required.	Inland Slopes
INL_21	Regent Honeyeater Little Eagle Swift Parrot Square-tailed Kite Grey-headed Flying-fox	Low	The risk of collision is considered low.	No mitigation measures required.	Inland Slopes
INL_23	Regent Honeyeater Swift Parrot Southern Myotis Grey-headed Flying-fox	Moderate	Nearby Grey-headed Flying-fox collision/ electrocution records.	• Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. • Investigation into appropriate deterrent devices is recommended.	Inland Slopes
INL_24	Swift Parrot	Moderate	Nearby Grey-headed Flying-fox collision/ electrocution records.	• Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. • Investigation into appropriate deterrent devices is recommended.	Inland Slopes

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
INL_25	Pink-tailed Legless Lizard Regent Honeyeater Southern Myotis Glossy Black-Cockatoo	Low	The risk of collision is considered low.	No mitigation measures required.	Inland Slopes
INL_3	Swift Parrot Superb Parrot Grey-headed Flying-fox	Low	The risk of collision/ entanglement is considered low.	No mitigation measures required.	Inland Slopes
INL_4	<u>BAM Candidate species</u> Koala Southern Myotis Grey-headed Flying-fox Regent Honeyeater Swift Parrot <u>Migratory bird records (BioNet 2023)</u> Sharp-tailed Sandpiper Marsh Sandpiper Red-necked Stint Curlew Sandpiper White-throated Needletail	Moderate	Murrumbidgee River is a known corridor for migratory waterbirds. Safeguards to be applied.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Inland Slopes
INL_5	Swift Parrot Regent Honeyeater Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Square-tailed Kite Barking Owl Masked Owl Squirrel Glider Koala Superb Parrot Grey-headed Flying-fox	Low	The risk of collision/ entanglement is considered low.	No mitigation measures required.	Inland Slopes
INL_6	Southern Myotis (confirmed) Large Bentwing-bat (foraging-confirmed) Gang-gang Cockatoo	Low	The risk of collision in the locality is considered low.	No mitigation measures required.	Inland Slopes

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
	Little Eagle Square-tailed Kite Barking Owl Masked owl Squirrel Glider Swift Parrot Regent Honeyeater Glossy Black Cockatoo Superb Parrot				
INL_7	Pink-tailed Legless Lizard Gang-gang Cockatoo Little Eagle Swift Parrot Square-tailed Kite Barking Owl Squirrel Glider Superb Parrot	Low	Low risks of collision/entanglement.	No mitigation measures required.	Inland Slopes
INL_8	Regent Honeyeater Bush-stone Curlew Koala Swift Parrot Little Eagle Square-tailed Kite Grey-headed Flying-fox	Moderate	Nearby Grey-headed Flying-fox collision/ electrocution records.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Inland Slopes
INL_9	<u>BAM candidate species</u> Gang-gang Cockatoo (confirmed) Powerful Owl (confirmed) Swift Parrot Regent Honeyeater Little Eagle Square-tailed Kite Grey-headed Flying-fox <u>Wildlife rehabilitation records (BioNet 2023)</u>	Moderate	The risk of collision in this locality is considered moderate due to nearby migratory bird records, Grey-headed Flying-fox (entanglement records), raptor records.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Inland Slopes

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
	Grey-headed Flying-fox (three dead, and multiple, > 50 injury records, within 10 km of the corridor) <u>Migratory bird records (BioNet 2023)</u> Sharp-tailed Sandpiper Marsh Sandpiper Red-necked Stint Curlew Sandpiper Fork-tailed Swift White-throated Needletail				
MUR_1	Swift Parrot Square-tailed Kite Grey-headed Flying-fox Regent Honeyeater Gang-gang Cockatoo Little Eagle Powerful Owl Squirrel Glider	Low	The risk of collision and entanglement is considered low.	No mitigation measures required.	Murrumbateman
MUR_10	Swift Parrot Regent Honeyeater Gang-gang Cockatoo Little Eagle Square-tailed Kite Squirrel Glider Superb Parrot	Low	The risk of collision/ entanglement is considered low.	No mitigation measures required.	Murrumbateman
MUR_11	Southern Myotis Grey-headed Flying-fox Regent Honeyeater Swift Parrot	Low	The risk of entanglement/ collision is low.	No mitigation measures required.	Murrumbateman

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
MUR_2	Large Bent-winged Bat (foraging only) Squirrel Glider (confirmed present) Gang-gang Cockatoo Regent Honeyeater Little Eagle Swift Parrot Southern Myotis Powerful Owl Greater Glider Superb Parrot Grey-headed Flying-fox Glossy-Black Cockatoo	Low	The risk of entanglement is considered low, based on review of BioNet records, habitat in the locality and the extent and nature of the proposed work in the locality.	No mitigation measures required.	Murrumbateman
MUR_3	Little Eagle (confirmed) Gang-gang Cockatoo Regent Honeyeater Swift Parrot Southern Myotis Powerful Owl Greater Glider Squirrel Glider Superb Parrot	Moderate	The risk of collision and entanglement is considered moderate (Raptors records in the locality).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Murrumbateman
MUR_4	Regent Honeyeater Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Square-tailed Kite Powerful Owl Greater Glider Squirrel Glider	Low	The risk of entanglement is considered low.	No mitigation measures required.	Murrumbateman

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
MUR_5	Powerful Owl Regent Honeyeater Gang-gang Cockatoo (confirmed) Glossy-Black Cockatoo Little Eagle Swift Parrot Square-tailed Kite Squirrel Glider Greater Glider	Moderate	The risk of entanglement/ collision/ electrocution is moderate in the locality (Raptor habitat).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Murrumbateman
MUR_6	Regent Honeyeater Gang-gang Cockatoo Glossy-Black Cockatoo Little Eagle Swift Parrot Southern Myotis Powerful Owl Greater Glider Squirrel Glider Superb Parrot (confirmed)	Moderate	Moderate risk of collision/entanglement (Raptor habitat).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Murrumbateman
MUR_7	Swift Parrot Gang-gang Cockatoo Glossy-Black Cockatoo Regent Honeyeater Grey-Headed Flying-fox Little Eagle Southern Myotis Powerful Owl Squirrel Glider Superb Parrot	Moderate	Moderate risk of collision/ entanglement along riparian corridors (e.g., waterbirds, raptors).	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Murrumbateman
MUR_8	Little Eagle Swift Parrot Grey-headed Flying-fox	Low	Low risk of entanglement/ collision.	No mitigation measures required.	Murrumbateman

Corridor ID	Associated candidate species	Risk of collision/ entanglement/ electrocution	Risk of collision/ entanglement/ electrocution justification	Recommended mitigation measures	IBRA subregion
MUR_9	Little Eagle Swift Parrot	Low	The risk of collision is considered low.	No mitigation measures required.	Murrumbateman
SNO_1	Gang-gang Cockatoo (multiple records) Barking Owl (confirmed) Greater Glider (confirmed) Pink Robin Little Eagle Square-tailed Kite Powerful Owl Squirrel Glider Brush-tailed Phascogale Masked Owl Flame Robin (recorded)	Moderate	The risk of entanglement/ collision is considered moderate.	• Pre-construction surveys and micro-siting • Review species wildlife rehabilitation records in the locality to understand areas that are of higher risk of bird-strike/collision. Investigation into appropriate deterrent devices is recommended.	Snowy Mountains

5. Threatened fauna clearing impacts within Category 1 exempt lands

Threatened species habitat clearing impacts within Category 1 exempt lands are documented within Table A21-9. This comprises 122.94 ha of habitat for 19 candidate threatened flora and seven candidate threatened fauna species.

Table A21-9: Direct impacts to threatened species within Category 1 exempt lands

Scientific name	Common name	PCT ID	Condition	Clearing zones	Patch size (ha)	IBRA Subregion (ha)					Total
						Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	
Ammobium craspedioides	Yass Daisy	287	Low	FCZ	>=100ha					0.65	0.65
		287	Low	ECZ	>=100ha					0.07	0.07
		287	Very low	FCZ	>=100ha				1.64	0.78	2.42
		287	Very low	ECZ	>=100ha				0.04	0.02	0.06
		290	Low	FCZ	>=100ha				0.33		0.33
		290	Low	ECZ	>=100ha				0.05		0.05
		290	Low	HTZ	>=100ha				0.01		0.01
		290	Very low	FCZ	>=100ha				5.95		5.95
		290	Very low	ECZ	>=100ha				0.07		0.07
		343	Low	FCZ	>=100ha				0.03		0.03
		343	Low	ECZ	>=100ha				0.01		0.01
		343	Very low	FCZ	>=100ha				1.90		1.90
		343	Very low	ECZ	>=100ha				0.02		0.02
		343	Very low	HTZ	>=100ha				0.03		0.03
Aprasia parapulchella	Pink-tailed Legless Lizard	290	Low	FCZ	>=100ha				0.24		0.24
		290	Low	ECZ	>=100ha				0.05		0.05
		290	Low	HTZ	>=100ha				0.01		0.01
		290	Very low	FCZ	>=100ha				2.86		2.86
		290	Very low	ECZ	>=100ha				0.05		0.05
		319	Low	FCZ	>=100ha				1.39		1.39

Scientific name	Common name	PCT ID	Condition	Clearing zones	Patch size (ha)	IBRA Subregion (ha)					Total
						Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	
		351	Low	FCZ	>=100ha					0.31	0.31
		351	Low	ECZ	>=100ha					0.02	0.02
		351	Low	HTZ	>=100ha					0.01	0.01
		351	Very low	FCZ	>=100ha					2.66	2.66
		731	Very low	FCZ	>=100ha				0.49		0.49
Bossiaea oligosperma	Few-seeded Bossiaea	1093	Low	FCZ	>=100ha		0.21				0.21
		1093	Low	HTZ	>=100ha		0.02				0.02
Burhinus grallarius	Bush Stone-curlew	5	Low	FCZ	>=100ha				0.05		0.05
		290	Low	FCZ	>=100ha				0.33		0.33
		290	Low	ECZ	>=100ha				0.03		0.03
		343	Low	FCZ	>=100ha				0.03		0.03
		343	Low	ECZ	>=100ha				0.01		0.01
Caladenia montana	-	953	Low	FCZ	>=100ha	0.01					0.01
		953	Very low	FCZ	>=100ha	3.93					3.93
		953	Very low	HTZ	>=100ha	0.01					0.01
Crinia sloanei	Sloane's Froglet	5	Low	FCZ	>=100ha				0.05		0.05
Cullen parvum	Small Scurf-pea	5	Low	FCZ	>=100ha				0.05		0.05
Dillwynia glaucula	Michelago Parrot-pea	1093	Low	FCZ	>=100ha		0.53				0.53
		1093	Low	HTZ	>=100ha		0.02				0.02
Diuris aequalis	Buttercup Doubletail	731	Very low	FCZ	>=100ha			0.06			0.06
		1093	Low	FCZ	>=100ha		0.79	0.50			1.29
		1093	Low	ECZ	>=100ha		0.01				0.01
		1093	Low	HTZ	>=100ha		0.02				0.02
		1093	Very low	FCZ	>=100ha			4.95			4.95
		1093	Very low	ECZ	>=100ha			0.01			0.01

Scientific name	Common name	PCT ID	Condition	Clearing zones	Patch size (ha)	IBRA Subregion (ha)					Total
						Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	
		1097	Very low	FCZ	>=100ha		0.78				0.78
		1097	Very low	ECZ	<5ha		0.02				0.02
Diuris tricolor	Pine Donkey Orchid	731	Very low	FCZ	>=100ha				0.69		0.69
Eucalyptus aggregata	Black Gum	1330	Low	ECZ	>=100ha			0.05			0.05
		1330	Very low	FCZ	>=100ha			0.04			0.04
		1256	Very low	FCZ	>=100ha					0.05	0.05
Eucalyptus cannonii	Capertee Stringybark	290	Low	FCZ	>=100ha				0.33		0.33
		290	Low	ECZ	>=100ha				0.05		0.05
		290	Low	HTZ	>=100ha				0.01		0.01
		290	Very low	FCZ	>=100ha				5.95		5.95
		290	Very low	ECZ	>=100ha				0.07		0.07
Eucalyptus macarthurii	Paddys River Box, Camden Woollybutt	1097	Very low	FCZ	>=100ha		0.78				0.78
		1097	Very low	ECZ	<5ha		0.02				0.02
Euphrasia arguta	-	287	Very low	FCZ	>=100ha				1.64		1.64
		287	Very low	ECZ	>=100ha				0.04		0.04
		290	Low	FCZ	>=100ha				0.33		0.33
		290	Low	ECZ	>=100ha				0.05		0.05
		290	Low	HTZ	>=100ha				0.01		0.01
		290	Very low	FCZ	>=100ha				5.95		5.95
		290	Very low	ECZ	>=100ha				0.07		0.07
Genoplesium superbum	Superb Midge Orchid	1150	Low	FCZ	>=100ha		0.14				0.14
Kunzea cambagei	Cambage Kunzea	1150	Low	FCZ	>=100ha		0.14				0.14
Leucochrysum albicans var. tricolor	Hoary Sunray	280	Moderate	FCZ	>=100ha	0.37					0.37
		322	High	FCZ	>=100ha	0.34					0.34
		322	High	ECZ	>=100ha	0.08					0.08

Scientific name	Common name	PCT ID	Condition	Clearing zones	Patch size (ha)	IBRA Subregion (ha)					Total
						Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	
		322	High	HTZ	>=100ha	0.03					0.03
		322	Very low	FCZ	>=100ha	0.01					0.01
		335	High	FCZ	>=100ha	0.09					0.09
		351	Low	FCZ	>=100ha					0.17	0.17
		351	Low	ECZ	>=100ha					0.02	0.02
		351	Very low	FCZ	>=100ha					4.27	4.27
		727	Moderate	FCZ	>=100ha	0.27					0.27
		727	Very low	FCZ	>=100ha	0.22					0.22
		727	Very high	FCZ	>=100ha	0.04					0.04
		731	High	FCZ	>=100ha	0.11					0.11
		731	High	HTZ	>=100ha	0.05					0.05
		731	Moderate	FCZ	>=100ha	0.29					0.29
		731	Moderate	ECZ	>=100ha	0.13					0.13
		731	Moderate	HTZ	>=100ha	0.07					0.07
		731	Low	FCZ	>=100ha	0.12					0.12
		731	Very low	FCZ	>=100ha			0.06	0.69		0.75
		952	Moderate	ECZ	>=100ha	0.03					0.03
		952	Low	FCZ	>=100ha			1.73			1.73
		952	Very low	FCZ	>=100ha			0.11			0.11
		953	Low	FCZ	>=100ha	0.01					0.01
		953	Very low	FCZ	>=100ha	3.93					3.93
		953	Very low	HTZ	>=100ha	0.01					0.01
		1093	High	FCZ	>=100ha	0.11					0.11
		1093	Moderate	FCZ	>=100ha	0.02					0.02
		1093	Moderate	ECZ	>=100ha	0.02					0.02

Scientific name	Common name	PCT ID	Condition	Clearing zones	Patch size (ha)	IBRA Subregion (ha)					Total
						Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	
		1093	Low	FCZ	>=100ha	0.01	0.21	0.11		0.03	0.36
		1093	Low	HTZ	>=100ha		0.02				0.02
		1093	Very low	FCZ	>=100ha	0.06		4.59		1.14	5.79
		1097	Very low	FCZ	>=100ha		0.78				0.78
		1097	Very low	ECZ	<5ha		0.02				0.02
		1151	Low	FCZ	>=100ha	0.05					0.05
		1330	High	ECZ	>=100ha	0.35					0.35
		1330	High	HTZ	>=100ha	0.05					0.05
		1330	Low	FCZ	>=100ha	0.04					0.04
		1330	Low	ECZ	>=100ha	0.02					0.02
		1330	Low	HTZ	>=100ha	0.05					0.05
		1330	Very low	ECZ	>=100ha	0.01					0.01
Litoria castanea	Yellow-spotted Tree Frog	1256	Low	FCZ	>=100ha			0.25			0.25
		1256	Very low	FCZ	>=100ha					0.05	0.05
Persoonia marginata	Clandulla Geebung	287	Very low	FCZ	>=100ha				1.64		1.64
		287	Very low	ECZ	>=100ha				0.04		0.04
Petauroides volans	Greater Glider	1093	Low	FCZ	>=100ha		0.05				0.05
Petaurus norfolcensis	Squirrel Glider	5	Low	FCZ	>=100ha				0.05		0.05
		290	Low	FCZ	>=100ha				0.09		0.09
		316	Low	FCZ	>=100ha				0.07		0.07
		343	Low	FCZ	>=100ha				0.03		0.03
		343	Low	ECZ	>=100ha				0.01		0.01
		351	Low	FCZ	>=100ha					0.19	0.19
		1093	Low	FCZ	>=100ha		0.05	0.03			0.08
Senecio garlandii	Woolly Ragwort	287	Very low	FCZ	>=100ha				0.33		0.33

Scientific name	Common name	PCT ID	Condition	Clearing zones	Patch size (ha)	IBRA Subregion (ha)					Total
						Bondo	Bungonia	Crookwell	Inland Slopes	Murrumbateman	
		290	Low	FCZ	>=100ha				0.15		0.15
		290	Very low	FCZ	>=100ha				0.39		0.39
Solanum armourense	-	1093	Low	FCZ	>=100ha		0.03				0.03
Swainsona sericea	Silky Swainson-pea	290	Low	FCZ	>=100ha				0.33		0.33
		290	Low	ECZ	>=100ha				0.05		0.05
		290	Low	HTZ	>=100ha				0.01		0.01
		290	Very low	FCZ	>=100ha				5.95		5.95
		290	Very low	ECZ	>=100ha				0.07		0.07
Synemon plana	Golden Sun Moth	287	Low	FCZ	>=100ha					0.50	0.50
		349	Low	FCZ	>=100ha					0.44	0.44
		351	Very low	FCZ	>=100ha					0.01	0.01
		1093	Low	FCZ	>=100ha					0.01	0.01
		1093	Very low	ECZ	>=100ha					0.01	0.01
		1093	Very low	FCZ	>=100ha					1.78	1.78
Zieria obcordata	Granite Zieria	287	Very low	FCZ	>=100ha				1.64		1.64
		287	Very low	ECZ	>=100ha				0.04		0.04
Total						**10.94**	**4.64**	**12.49**	**42.49**	**13.19**	**83.75**

Attachment 22. EPBC Act bushfire impact assessments

This attachment addresses the following component of the Supplementary SEARs (*Guidelines for preparing assessment documentation relevant to the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) for proposals being assessed under the NSW Assessment Bilateral. HumeLink (EPBC 2021/9121)*) assessment requirements:

> *16. Further analysis of the impacts of the 2019-2020 bushfires on EPBC Act listed threatened species and communities should be undertaken during the assessment. Further assessment will determine whether the remaining habitat within the proposed action area is of substantially greater importance to the survival of the listed threatened species following the fires and/or whether the population of the species in the area is considered an important population. This information, once obtained, can be considered when determining avoidance, mitigation and offset measures for these species.*

MNES including threatened species and ecological communities considered likely to occur within the project footprint and for which associated PCTs were severely burnt, has been addressed further below.

1. Threatened ecological communities

Table A22- 1 presents a summary of severely burnt vegetation associated with the EPBC Act listed Threatened Ecological Communities (TEC) occurring within the project footprint. A bushfire impact assessment has been undertaken for each TEC and is presented within Section 1.1 and 1.2 below.

Table A22- 1: Severely burnt PCTs forming an EPBC Act TEC association

TEC	EPBC Act Status*	Associated PCTs severely burnt	Extent TEC severely burnt (ha)			% TEC severely burnt
			BON	INL	SNO	
White Box, Yellow Box, Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box-Gum Woodland	CE	268	-	27.77	-	3%
Alpine Sphagnum Bogs and Associated Fens	E	939	-	-	1.77	71%

1.1 White Box, Yellow Box, Blakely's Red Gum Grassy Woodland and Derived Native Grassland

Table A22- 2: White Box, Yellow Box, Blakely's Red Gum Grassy Woodland and Derived Native Grassland bushfire impact assessment

MNES	White Box, Yellow Box, Blakely's Red Gum Grassy Woodland and Derived Native Grassland
General	Box-Gum Woodland TEC (EPBC Act) is geographically widespread but highly fragmented throughout Queensland, NSW, ACT and Victoria. In 2010 it was estimated that only 405,000 ha of the ecological community in various condition states remain (Australian Government 2007; DECCW 2010). Thomas *et al.* (2000) estimated that approximately 59,468 hectares remained in south-eastern NSW as of the year 2000, which is less than 4% of its original extent. A suite of fauna are dependent upon Box-Gum Woodland habitat resources for foraging, roosting, nesting, raising young, dispersal, movement and/or migration. These include birds, arboreal and ground-dwelling mammals, reptiles, amphibians and invertebrates. Nectar, an important food resource for fauna, is more abundant on the fertile soils on which Box-Gum Woodland TEC is found. There are 14 EPBC Act-listed flora species and 12 EPBC Act-listed fauna species which are associated with Box-Gum Woodland TEC (DECCW 2010).
Fire Ecology	This ecological community can withstand fire, however the frequency and intensity can influence the degree of recovery. As a rule, TECs have pre-existing and ongoing threats that can reduce their resilience to fire, such as severe drought, fragmentation, soil disturbance, grazing and invasive species (Good & Rumpf 2020). Studies have shown that vegetation recovery is between 5 to 7 years in dry sclerophyll forests, woodlands, and heathlands in the Sydney Basin (van Loon 1977, Conroy 1993, Penman and York 2010, Heath *et al.* 2016). Woodland tree species that can resprout are likely to be resilient to variations in the fire regime in the short to medium (decades) term. For example, Yellow Box *Eucalyptus melliodora* (like many Eucalypts) form a lignotuber which is capable of resprouting after fire, and the thick bark at the base of Yellow Box trees protects them from damage by fire. Fire can provide suitable seedbed conditions, and reduce competition (Graham *et al.* 2013). NPWS (2004) recommend a fire frequency of between 5 and 40 years for grassy woodland ecosystems across NSW.

MNES	White Box, Yellow Box, Blakely's Red Gum Grassy Woodland and Derived Native Grassland
Impact of fires to MNES habitat in the Subject land and locality	It is unknown how many hectares of EPBC-listed Box-Gum Woodland TEC was impacted by the 2019/20 fires, however given its extent throughout NSW, it is likely to be significant. Approximately 959.2 ha of Box gum woodland TEC occurs within the project footprint. Of that, Fire Extent Severity Mapping (FESM)(DPIE 2020f) indicates that approximately 27.77 ha (3%) of the TEC was severely burnt. Bushfire impacts occurred within PCT 268 in the Inland Slopes IBRA Subregion
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The majority (ie 97%) of Box-Gum Woodland TEC within the project footprint was not severely burnt as a result of the 2019/20 fires. Given the extent of the Box-Gum Woodland TEC throughout NSW, it is possible that impacts as a result of the 2019/20 bushfires were more wide-ranging and severe than identified for the project locality. However, associated eucalypt communities are well adapted to fire and likely to regenerate fairly quickly given suitable conditions. Whilst highly mobile fauna species may have become temporarily more reliant on unburnt Box-Gum Woodland within the project footprint post-fire, this reliance would reduce as burnt areas continue to recover.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

1.2 Alpine Sphagnum Bogs and Associated Fens

Table A22- 3: Alpine Sphagnum Bogs and Associated Fen bushfire impact assessment

MNES	Alpine Sphagnum Bogs and Associated Fens
General	The Alpine Sphagnum Bogs and Associated Fens (Bogs and Fens) TEC is usually defined by the presence or absence of Sphagnum (*Sphagnum cristatum*) on a peat substratum. Sphagnum is not always a major floristic component, and there are some sites in the community where Sphagnum has become depleted or been lost as a result of disturbance (DEWHA 2008). The TEC can be easily delineated from other alpine vegetation communities given its unique plant assemblages (TSSC 2009a). The Bogs and Fens TEC has a restricted geographic extent, mostly occurring as small, highly fragmented pockets of isolated remnant vegetation within its known range (DEWHA 2008). The actual area of occupancy is estimated to be approximately 8,000 ha on the mainland (TSSC 2009a). There are few reliable estimates of the current or pre-European extent of the *TEC*. One estimate suggests the current extent is less than half what it was before European settlement, and that only around thirty per cent of this (ie <15% of total extent) could be considered still fully functional. Some experts believe that there are no pristine patches of the Bogs and Fens TEC left on mainland Australia. A large proportion of this TEC has been disturbed as a result of grazing and trampling, invasive species and development (DoE, 2015). It is possible that the 2019/20 bushfires has further exacerbated the impacts of these known threats.
Fire Ecology	The Bogs and Fens TEC is recognised as a national priority for urgent management intervention given an estimated 10-30% percent of its distribution occurs within fire affected areas (DAWE 2020). Prior to the 2019/20 fires, over 1.4 million hectares of alpine and subalpine country were severely burnt in north-east Victoria, south-east NSW and the ACT by the wildfires of January 2003 and then some areas affected by a further major fire in 2006-2007. Whilst regeneration rates of most vegetation types have generally been good following the 2003 fires, the Bogs and Fens TEC suffered extensive damage (TSSC 2009a). In most severely burnt bogs, Sphagnum cover was completely destroyed with the underlying peat burnt down to mineral soils.

MNES	Alpine Sphagnum Bogs and Associated Fens
	Too frequent wildfire poses a direct threat to the Bogs and Fens TEC as extended periods of time between fire events are required for recovery (TSSC 2009a). Sphagnum and its underlying peats are known to be very fire sensitive with recovery slow and almost always dependent on remnant unburnt fragments to support regeneration (Walsh and McDougall, 2004 cited in TSSC 2009a). Delays in regeneration leave the bog environment extremely vulnerable to soil erosion and weed invasion (TSSC 2009a). The impact of fire on the Bogs and Fens TEC is significant and long term. However, evidence from previous smaller fires suggests regeneration will occur given sufficient post-fire recovery periods (McDougall, 2007 cited in TSSC 2009a).
Impact of fires to MNES habitat in Subject land and locality	It is unknown how many hectares of the EPBC-listed Bogs and Fens TEC was impacted by the 2019/20 fires. Approximately 2.5 ha of the Bogs and Fens TEC associated with PCT 939 occurs within the Snowy Mountains IBRA subregion of the project footprint. FESM data indicates that approximately 1.77 ha (71%) of the TEC was severely burnt. This represents less than 0.01% of the area of occupancy for this TEC on the mainland (NSW, Victoria and ACT) (TSSC 2009a).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Approximately two-thirds of the Bogs and Fens TEC occurring within the project footprint was severely burnt as a result of the 2019/20 fires. Although this constitutes a relatively small area (1.77 ha), impacts as a result of the bushfire may still be considered significant given that the TEC only occurs as small, highly fragmented pockets of isolated remnant vegetation. Unburnt areas are considered of high important for the recovery of the TEC given its fire ecology. Furthermore unburnt areas are likely to be significant for the persistent of associated flora and fauna species within the project footprint given the long recovery periods typically associated with this community post-fire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2. Threatened flora

Table A22-4 presents a summary of severely burnt vegetation associated with the EPBC Act listed Threatened Ecological Communities (TEC) threatened flora species occurring within the project footprint. A bushfire impact assessment has been undertaken for each species and is presented within Section 2.1 to Section 2.7 below.

Table A22- 4: Severely burnt habitat for EPBC Act listed flora

Scientific Name	Common name	EPBC Act Status*	Associated PCTs severely burnt	Extent habitat severely burnt (ha)			% severely burnt habitat within project footprint
				BON	INL	SNO	
Ammobium craspedioides	Yass Daisy	V	268, 287, 290	-	52.69	-	2%
Leucochrysum albicans var. tricolor	Hoary Sunray	E	268, 679, 953, 1196	87.01	9.71	87.40	9%
Prasophyllum bagoense	Bago Leek Orchid	CE	1196,	-	-	39.29	39%

Scientific Name	Common name	EPBC Act Status*	Associated PCTs severely burnt	Extent habitat severely burnt (ha)			% severely burnt habitat within project footprint
				BON	INL	SNO	
Prasophyllum keltonii	Kelton's Leek Orchid	CE	1196	-	-	39.29	42%
Pterostylis oreophila	Blue-tongued Greenhood	CE	939	-	-	1.77	60%
Thesium australe	Austral Toadflax	V	679, 1196	-	-	45.82	4%
Xerochrysum palustre	Swamp Everlasting	V	679, 939	-	-	4.55	35%

2.1 *Ammobium craspedioides*

Table A22- 5: *Ammobium craspedioides* bushfire impact assessment

MNES	*Ammobium craspedioides* (Yass Daisy)
General	*Ammobium craspedioides* (Yass Daisy) is a rosette-forming perennial which is found from near Crookwell on the Southern Tablelands to near Wagga Wagga on the South Western Slopes. Most populations are in the Yass region. Yass Daisy habitat includes moist or dry forest communities, Box-Gum Woodland and secondary grassland derived from clearing of these communities. It is unaffected by light grazing, as populations persist in some grazed sites (DPIE 2020d).
Fire Ecology	A study completed by Doherty and Wright (2006) on the 2003 bushfire in the Australian Alps, found Yass Daisy to be sufficiently re-sprouting and flowering the vicinity of Burrinjuck area. Given that, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire.
Impact of fires to MNES habitat in Subject land and locality	Approximately 2,606.03 ha of suitable Yass Daisy habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 52.69 ha of suitable Yass Daisy habitat within three PCT's (268, 287 & 290) in the Inland Slopes IBRA subregion was severely burnt by the 2019/20 fires, or 2%. In total, approximately 98% of all suitable Yass Daisy habitat (associated PCT's) recorded within the project footprint remained unburnt. Yass Daisy was recorded within the project footprint during targeted surveys carried out within Bondo and the Inland Slopes IBRA Subregions (7,660 individuals) and there are 918 records (9,296 individuals) within 20 kms of the project footprint dating back from 1952 to 2022.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint contains Yass Daisy suitable habitat and associated PCT's, including approximately 2,553 . 34 ha that was not severely burnt. Yass Daisy was recorded within unburnt areas in the project footprint during targeted surveys (7,660 individuals) and there are 3 records (12 individuals) within approximately 6 kms of the project footprint. Although fires impacted on approximately 2% of the species suitable habitat in

MNES	*Ammobium craspedioides* (Yass Daisy)
	the project's locality, Yass Daisy is reported to respond well to fire (Doherty and Wright 2006), therefore the remaining habitat within the project footprint is unlikely to be of substantially greater importance to the survival of Yass Daisy following the fires.
Is the population of the species in the area considered an important population post fires?	Although fires impacted on approximately 2% of the species suitable habitat in the project's locality, Yass Daisy is reported to respond well to fire (Doherty and Wright 2006). Therefore, it is likely to have persisted post bushfire and the population of Yass Daisy in the project footprint is not considered to be an important population post 2019-2020 bushfire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2.2 *Leucochrysum albicans var. tricolor*

Table A22- 6: *Leucochrysum albicans var. tricolor* bushfire impact assessment

MNES	*Leucochrysum albicans var. tricolor* (Hoary Sunray)
General	*Leucochrysum albicans var. tricolor* (Hoary Sunray) is currently known from three geographically separate areas in south-eastern Australia. In NSW it currently occurs on the Southern Tablelands adjacent areas in an area roughly bounded by Albury, Bega and Goulburn, with a few scattered localities known from beyond this region (DPE 2022). This species occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils and is highly dependent on the presence of bare ground for germination (DPE 2022). Threats to this species includes clearing and habitat destruction, weeds, poor representation in conservation reserves, lack of appropriate biomass reduction, inappropriate fires regimes, grazing by livestock and risk of local extinction because populations are small (DPE 2022). Some threats may potentially have been exacerbated as a result of the 2019/20 bushfires.
Fire Ecology	Grassland communities require some level of disturbance, whether from light grazing or fire, to maintain diversity and prevent a monoculture of grass species (Hobbs and Huenneke 1992). Frequent (7-11 years) fires (Sinclair 2010) are considered ideal for the conservation of *Leucochrysum albicans var. tricolor*, however, how fire intensity impacts the species is unknown. Given the species longevity to requires some disturbance (in the form of frequent fires), if the species did occur within the project footprint, prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire.
Impact of fires to MNES habitat in Subject land and locality	Approximately 2,148.80 ha of suitable Hoary Sunray habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 184.12 ha of suitable Hoary Sunray habitat within four PCT's (268, 679, 953 & 1196) was severely burnt by the 2019/20 fires, or 9%. The majority of suitable habitat in the project footprint was severely burnt within the Snowy Mountains (87.40 ha) and Bondo (87.01 ha) IBRA subregions, with Inland Slopes also affected (9.71 ha). In total, approximately 91% of all suitable Hoary Sunray habitat (associated PCT's) recorded within the project footprint remained unburnt.

MNES	*Leucochrysum albicans var. tricolor* (Hoary Sunray)
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Hoary Sunray was recorded within unburnt areas in the project footprint during targeted surveys (143,001) and the project footprint contains associated PCTs and suitable habitat in six IBRA subregions, including approximately 1,964.68 ha that was not severely burnt. Approximately 9% of the species suitable habitat within the project footprint was severely burnt by the bushfires. However, this species requires some disturbance (in the form of frequent fires) for its conservation (Sinclair 2010). Therefore, the remaining habitat within the project footprint is unlikely to be of substantially greater importance to the survival of this species following the 2019/20 bushfires.
Is the population of the species in the area considered an important population post fires?	Although the small population of this species is known from only three geographically separate areas (DPE 2022) and fires impacted on approximately 09% of the species suitable habitat in the project footprint, Hoary Sunray is thought to require frequent fires (Sinclair 2010) for its longevity. Therefore, Hoary Sunray is likely to have persisted post bushfire and the population in the project footprint is not considered to be an important population post 2019-2020 bushfire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2.3 *Prasophyllum bagoense*

Table A22- 7: *Prasophyllum bagoense* bushfire impact assessment

MNES	*Prasophyllum bagoense* (Bago Leek Orchid)
General	The geographic distribution of *Prasophyllum bagoense* (Bago Leek Orchid) is very highly restricted. According to the DPE (2014), there is a single population of Bago Leek Orchid in the Tumbarumba area. The number of mature individuals is estimated to be low between 400- 600 individuals (DPE, 2014; DPIE, 2022). In 2020, detailed surveys recorded a population of at least 2,300 individuals (DPE 2021). However, due to fluctuating numbers of aboveground material over seasons it is difficult to determine if the population is stable or declining (TSSC 2014). The species occurs on a sub-alpine treeless plain at an elevation of approximately 1160 m in an alpine bog/heathland community on moist to wet shallow clay loam soil (Jones 2000, 2006), as well as in adjacent eucalypt woodland (DPE 2014).
Fire Ecology	There is no current literature on Bago Leek Orchid's response to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera respond well to bushfire. Bago Leek Orchid is reliant on seed germination for recruitment of new plants. This species flowers freely without fire stimulation (TSSC 2012 cited in DPE 2014).
Impact of fires to MNES habitat in Subject land and locality	Approximately 101.61 ha of suitable Bago Leek Orchid habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 39.29 ha of suitable Bago Leek Orchid habitat within one PCT (1196) in the Snowy Mountains IBRA Subregion was

MNES	*Prasophyllum bagoense* (Bago Leek Orchid)
	severely burnt by the 2019/20 fires, or 39%. In total, approximately 61% of all suitable Bago Leek Orchid habitat (associated PCT's) recorded within the project footprint remained unburnt. A report on the impact of the 2019/2020 fires on NSW plants of national significance found that the maximum estimated burnt habitat for Bago Leek Orchid is 100% and that its overall risk rating after the 2019/2020 fires was high (Auld et al. 2020). Bago Leek Orchid was listed as a species considered to be at greatest risk of global decline and/or extinction (Auld et al. 2020). Analysis undertaken by the Australian Government Department of the Environment and Energy found that ≥80% of the species modelled likely and known distribution was within 2019/2020 fire affected areas (NSW) (DEE 2020).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The species was recorded during targeted surveys (39 individuals) immediately adjacent (ie within 130m) to the project footprint, which contains associated PCTs and suitable habitat in the Snowy Mountains IBRA subregion, including approximately 62.33 ha that was not severely burnt. Given that the geographic distribution of the species is very highly restricted and that fires impacted on a significant area of Bago Leek Orchid habitat across NSW (Auld et al. 2020 and DEE 2020), the remaining habitat within the project footprint is potentially of substantially greater importance to the survival of this species following the fires until there is substantial recovery of habitat at burnt sites in the region and surrounds.
Is the population of the species in the area considered an important population post fires?	There are 645 Bago Leek Orchid records within 25km of the project footprint (BioNet 2022). Of these records, about 13% were in areas that were severely burnt by the 2019/20 fires, indicating that not all Bago Leek Orchids in the area were impacted by the fires and some are likely to be persisting. There were also 39 individuals identified within the project footprint during targeted flora surveys for the project. Although the genera has been observed to respond well to bushfire (Duncan 2012), given that the geographic distribution of the species is very highly restricted and ≥80% of the species modelled likely and known distribution was within fire affected areas (Auld et al. 2020 and DEE 2020), any surviving population of Bago Leek Orchid in the area is likely to be an important population post fires until there is substantial recovery of populations at burnt sites in the region and surrounds.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2.4 *Prasophyllum keltonii*

Table A22- 8: *Prasophyllum keltonii* bushfire impact assessment

MNES	*Prasophyllum keltonii* (Kelton's Leek Orchid)
General	*Prasophyllum keltonii* (Kelton's Leek Orchid) is known from a single population that occurs in a small area known as McPhersons Plain, about 30 km north-west of Cabramurra and about 17 km south of Talbingo, in the Tumbarumba Local Government Area. The known population, which is

MNES	*Prasophyllum keltonii* (Kelton's Leek Orchid)
	intermingled with the Bago Leek Orchid, is recorded as comprising approximately 400 plants (OEH 2022a). The species has a preference for grassland and is known only from a highly restricted habitat on the treeless McPhersons Plain, an area that includes sub-alpine grassland, sphagnum bogs, and open heathland, at an elevation of 1,100 m (OEH 2022a). This species has an extent of occurrence of approximately 12 ha (0.12 km^2) (TSSC 2014b). The main potential threats to Kelton's leek-orchid include soil disturbance and habitat destruction by four-wheel drive vehicles, trail-bike and horse trail-riding activities, illegal collection and stochastic events such as wildfire (NSW SC, 2008 cited in TSSC 2014b). Some threats may potentially have been exacerbated as a result of the 2019/20 bushfires.
Fire Ecology	There is no current literature on Kelton's Leek Orchid response to bushfire. However, many species in the *Prasophyllum* genera were observed in high abundance post the Black Saturday Victoria 2009 (Duncan 2012), and it has been assumed that the genera responds well to bushfire. Given the literature shows *Prasophyllum spp*. Respond well to fire, if *Prasophyllum innubum* occurred within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire.
Impact of fires to MNES habitat in Subject land and locality	Approximately 92.78 ha of suitable Kelton's Leek Orchid habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 39.29 ha of suitable Kelton's Leek Orchid habitat within one PCT (1196) in the Snowy Mountains IBRA Subregion was severely burnt by the 2019/20 fires, or 42%. In total, approximately 58% of all suitable Kelton's Leek Orchid habitat (associated PCTs) recorded within the project footprint remained unburnt. A report on the impact of the 2019/2020 fires on NSW plants of national significance found that the maximum estimated burnt habitat for Kelton's Leek Orchid is 100% and that its overall risk rating after the 2019/2020 fires was high (Auld et al. 2020). Kelton's Leek Orchid was listed as a species considered to be at greatest risk of global decline and/or extinction (Auld et al. 2020). Analysis undertaken by the Australian Government Department of the Environment and Energy found that ≥80% of the species modelled likely and known distribution was within 2019/2020 fire affected areas (NSW) (DEE 2020).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project contains associated PCTs and suitable habitat in the Snowy Mountains IBRA subregion, including approximately 53.50 ha that was not severely burnt. Considering adaptations to fire noted, if the species did occur within the project footprint prior to the 2019-2020 bushfire, it is reasonable to assume that it would have persisted post bushfire. There were no populations identified during targeted flora surveys for the project, however 330 individuals were recorded by NSW Forestry Corporation in 2016 in the vicinity of the project footprint at Bago State Forest. Given that the geographic distribution of the species is very highly restricted and that fires impacted a significant area of potential Kelton's Leek Orchid habitat across NSW (Auld et al. 2020 and DEE 2020), the remaining habitat within the project footprint is potentially of substantially

MNES	*Prasophyllum keltonii* (Kelton's Leek Orchid)
	greater importance to the survival of this species following the 2019/20 fires until there is substantial recovery of habitat at burnt sites in the region and surrounds.
Is the population of the species in the area considered an important population post fires?	Although the genera have been observed to respond well to bushfire (Duncan 2012), stochastic events such as wildfire are listed as a main potential threat to the geographically limited Kelton's Leek Orchid (NSW SC, 2008 cited in TSSC 2014b). Given the low number of mature individuals observed, a very restricted distribution (OEH 2022a) and the extensive impact the 2019/2020 fire had on this species (Auld et al. 2020 and DEE 2020), the population of Kelton's Leek Orchid adjacent to the project footprint boundary is likely to be an important population and source of genetic diversity post fire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2.5 *Pterostylis oreophila*

Table A22- 9: *Pterostylis oreophila* bushfire impact assessment

MNES	*Pterostylis oreophila* (Blue-tongued Greenhood)
General	According to TSSC (2014c), this species occurs in the Kiandra and Bago areas of NSW of approximately 90 individuals in total. This species habitat is restricted to areas beside small montane and subalpine streams under tall dense thickets of Leptospermum grandiflorum (Mountain Tea Tree), in black oozing mud or less commonly in peaty soils and sphagnum mounds (Jones, 2006, p. 308 cited in TSSC 2012). This type of habitat occurs throughout much of the upper areas of Kosciuszko National Park. The main identified threats to the species, as listed in TSSC (2012), which are likely to have contributed to its low population include inappropriate land management: inappropriate fire regimes and mismanagement of controlled burns. Several of the threats identified for this species could have a disproportionate impact on the narrow ecological niche favoured by this species (NSWSC 2008 cited in TSSC 2012). For example, a hazard reduction burn in sphagnum mounds in Bago State Forest is reported to have destroyed a subpopulation during unusually dry conditions in 2006 (NSWSC 2008 in TSSC 2012). Some threats may potentially have been exacerbated as a result of the 2019/20 bushfires.
Fire Ecology	There is limited information on Blue-tongued Greenhood response to high intensity fires. The *Pterostylis* genera is variable in its response to fire, some species are fire sensitive while others are neutral (Duncan 2012). Given the limited knowledge of Blue-tongued Greenhood response to fire, and the known negative or neutral response of other species (Duncan 2012), it is not possible to determine whether it would have persisted on the site post bushfire if it was present.

MNES	*Pterostylis oreophila* (Blue-tongued Greenhood)
Impact of fires to MNES habitat in Subject land and locality	Only approximately 2.95 ha of suitable Blue-tongued Greenhood habitat in the form of associated PCT occurs in the project footprint. Of this, FESM data indicates that approximately 1.77 ha of suitable Blue-tongued Greenhood habitat within one PCT (939) in the Snowy Mountains IBRA Subregion was severely burnt by the 2019/20 fires, or 60%. Although these areas may seem small in scale, this species has a restricted distribution and narrow ecological niche (TSSC 2012), therefore the area of suitable habitat in the project footprint is not insignificant for this species. A report on the impact of the 2019/2020 fires on NSW plants of national significance found that the maximum estimated burnt habitat for Blue-tongued Greenhood is 53.35% and that its overall risk rating after the 2019/2020 fires was high (Auld et al. 2020). Blue-tongued Greenhood was listed as a species considered to be at greatest risk of global decline and/or extinction (Auld et al. 2020). Analysis undertaken by the Australian Government Department of the Environment and Energy found that 30 to <50% of the species modelled likely and known distribution was within 2019/2020 fire affected areas (NSW) (DEE 2020).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Although targeted flora surveys did not locate the species (certain areas could not be adequately surveyed due to project access and timing constraints), the project footprint contains associated PCTs and suitable habitat in the Snowy Mountains IBRA subregion, including approximately 1.18 ha that was not severely burnt. Given that the geographic distribution of the species is very highly restricted and that fires impacted an extensive area of Blue-tongued Greenhood habitat across NSW (Auld et al. 2020 and DEE 2020), the remaining habitat within the project footprint is potentially of substantially greater importance to the survival of this species following the fires until there is substantial recovery of habitat at burnt sites in the region and surrounds.
Is the population of the species in the area considered an important population post fires?	Targeted flora surveys undertaken in areas of suitable habitat within the project footprint did not locate the species. There are five nearby records of the Blue-tongued Greenhood, with the closest record 304 m outside the project footprint boundary (DPE 2022). Of these records, none were in areas that were severely burnt, indicating that all records of Blue-tongued Greenhood in the area were not impacted by the 2019/2020 fires and most are likely persisting. Given the very low number of mature individuals, very restricted distribution (OEH 2022), the extensive high risk impact the 2019/2020 fire had on this species (Auld et al. 2020 and DEE 2020) and that some species of Pterostylis genera are fire sensitive (Duncan 2012), any potential population of Blue-tongued Greenhood in the project footprint is likely to be an important population post fires. Furthermore, Blue-tongued Greenhood is likely to be threatened by environmental and demographic stochasticity due to the narrow areas of occupancy, small population sizes, and dispersed distribution of populations (NSWSC 2008 cited in TSSC 2012), indicating it could be vulnerable to stochastic events such as the 2019/20 wildfires.

MNES	*Pterostylis oreophila* (Blue-tongued Greenhood)
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2.6 *Thesium australe*

Table A22- 10: *Thesium australe* bushfire impact assessment

MNES	*Thesium australe* (Austral Toadflax)
General	Austral Toadflax is a small, straggling herb to 40 cm tall and is often hidden amongst grasses and herbs (DPE 2022). Austral Toad-flax is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia (DPE 2022). Fire severely impacts the species in late spring when resprouting, particularly after good rain. The threat of fire is exacerbated by an abundance of fuel from exotic tussock grasses. Coastal headland fires from recreational users can get out of control or complete fire suppression can remove the disturbance needed to compete with coastal shrubs (DPE 2022).
Fire Ecology	There is very little literature on the impacts of fire on Austral Toadflax. Cohn (2004) observed that Austral Toadflax occurred in lower densities in recently burned areas when compared to long unburned areas, suggesting that this species may not respond well to fire.
Impact of fires to MNES habitat in Subject land and locality	Approximately 1,043.72 ha of suitable Austral Toadflax habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 45.82 ha of suitable Austral Toadflax habitat within two PCT's (679 & 1196) in the Snowy Mountains IBRA Subregion's was severely burnt by the 2019/20 fires, or 4%. In total, approximately 96% of all suitable Austral Toadflax habitat (associated PCT's) recorded within the project footprint remained unburnt. Analysis undertaken by the Commonwealth Government Department of the Environment and Energy found that 10 to <30% of the species modelled likely and known distribution was within 2019/2020 fire affected areas (NSW) (DEE 2020).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Although targeted flora surveys did not locate the species (certain areas could not be adequately surveyed due to project access and timing constraints), the project footprint contains suitable habitat, including approximately 997.90 ha that was not severely burnt. Given that the geographic distribution of the species is in very small populations scattered across eastern NSW (DPE 2022), and 10 to <30% of the species modelled likely and known distribution was within fire affected areas (NSW) (DEE 2020), the remaining habitat within the project footprint is potentially of substantially greater importance to the survival of Austral Toadflax following the fires.
Is the population of the species in the area considered an important population post fires?	Although targeted flora surveys did not locate the species (certain areas could not be adequately surveyed due to project access and timing constraints), there are several nearby records of Austral Toadflax, with the closest record 7 km from the project footprint (DPE 2022). Given that this species may not respond well to fire (Cohn 2004), and 10 to <30% of the species modelled likely and known distribution was within fire

MNES	*Thesium australe* (Austral Toadflax)
	affected areas (NSW) (DEE 2020), any potential remaining population of Austral Toadflax within the project footprint and the surrounding area is likely to be an important population post fires.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

2.7 *Xerochrysum palustre*

Table A22- 11: *Xerochrysum palustre* bushfire impact assessment

MNES	*Xerochrysum palustre* (Swamp Everlasting)
General	*Xerochrysum palustre* (Swamp Everlasting) is a perennial herb, to 100 cm tall. It is found in Kosciuszko National Park and the eastern escarpment south of Badja and also in eastern Victoria (DPE 2022). Swamp Everlasting grows in swamps and bogs which are often dominated by heaths and sometimes grows in bogs with Sphagnum. It also grows at the edges of bog margins on peaty soils with a cover of shrubs or grasses. It is known to re-sprout after fires (DPE 2022).
Fire Ecology	There is limited literature on Swamp Everlasting response to fire, what is known is that adult plants usually resprout from an underground rootstock following fire (DCCEEW 2022a). This is further exhibited by Walsh and McDougall (2004), which showed the species was relatively unaffected by the 2003 bushfire in Kosciuszko National Park.
Impact of fires to MNES habitat in Subject land and locality	Approximately 12.82 ha of suitable Swamp Everlasting habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 4.55 ha of suitable Swamp Everlasting habitat within two PCT's (679 & 939) in the Snowy Mountains IBRA Subregion was severely burnt by the 2019/20 fires, or 35%. In total, approximately 65% of all suitable Swamp Everlasting habitat (associated PCT's) recorded within the project footprint remained unburnt. Analysis undertaken by the Commonwealth Government Department of the Environment and Energy found that 10 to <30% of the species modelled likely and known distribution was within 2019/2020 fire affected areas (NSW) (DEE 2020).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The species was recorded (6 individuals) within the project footprint during targeted surveys and the project footprint contains associated PCTs and suitable habitat for this species, including approximately 8.27 ha that was not severely burnt. Although 10 to <30% of the species modelled likely and known distribution was within 2019/2020 fire affected areas (DEE 2020), this species has been observed to be relatively unaffected by fire (Walsh and McDougall 2004). Therefore, the remaining habitat within the project footprint is unlikely be of substantially greater importance to the survival of Swamp Everlasting following the fires.

MNES	*Xerochrysum palustre* (Swamp Everlasting)
Is the population of the species in the area considered an important population post fires?	This species was recorded within the project footprint during targeted surveys and although 10 to <30% of the species modelled likely and known distribution was within fire affected areas (NSW) (DEE 2020), this species has been observed to be relatively unaffected by fire (Walsh and McDougall (2004). Therefore, the population of Swamp Everlasting in the area is unlikely to be an important population because of the fires.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3. Threatened fauna

Table A22- 12 presents a summary of severely burnt vegetation associated with the EPBC Act listed Threatened Ecological Communities (TEC) threatened flora species occurring within the project footprint. A bushfire impact assessment has been undertaken for each species and is presented within Section 3.1 to Section 3.13 below.

Table A22- 12: Severely burnt habitat for EPBC Act listed fauna

Scientific Name	Common name	EPBC Act Status*	Associated PCTs severely burnt	Extent habitat severely burnt (ha)			% habitat severely burnt
				BON	INL	SNO	
Anthochaera Phrygia	Regent Honeyeater	CE	268, 280, 287	-	66.27	-	5%
Aprasia parapulchella	Pink-tailed Legless Lizard	V	278,280, 290	-	1.36	-	0.1%
Callocephalon fimbriatum	Gang-gang Cockatoo	E	268, 290, 299, 300, 314, 638, 379, 953, 1196	108.86	241.89	167.94	20%
Grantiella picta	Painted Honeyeater	V	268, 287, 290	-	67.86	-	9%
Hirundapus caudacutus	White-throated Needletail	V; M	268, 277, 280, 285, 290, 297, 299, 300, 306, 314, 638, 639, 679, 939, 953, 1196	108.86	241.89	168.84	29%
Lathamus discolor	Swift Parrot	CE	268, 277, 280, 287, 290, 297, 299, 301, 306, 314, 352	0.01	241.97	0	15%
Litoria castanea	Yellow-spotted Tree Frog	E	939	-	-	1.77	5%
Mastacomys fuscus	Broad-toothed Rat	E	679	-	-	5.85	54%

Scientific Name	Common name	EPBC Act Status*	Associated PCTs severely burnt	Extent habitat severely burnt (ha)			% habitat severely burnt
				BON	INL	SNO	
Petaurus australis	Yellow-bellied Glider		299, 300, 638, 953, 1196	109.87	1.82	162.36	36%
Petauroides volans	Greater Glider	V	299, 300, 638, 953, 1196	62.52	-	62.93	32%
Phascolarctos cinereus	Koala	V	268, 280, 285, 287, 290, 297, 299, 300, 301, 306, 314, 638, 679, 953, 1196	108.83	241.72	168.21	21%
Pseudomys fumeus	Smoky Mouse	E	638, 953, 1196	0.17	-	128.58	33%
Pteropus poliocephalus	Grey-headed Flying-fox	V	287, 290	-	41.40	-	3%

3.1 Regent Honeyeater

Table A22- 13: Regent Honeyeater bushfire impact assessment

MNES	***Anthochaera Phyrgia* Regent Honeyeater**
General	Within NSW, *Anthochaera Phrygia's* (Regent Honeyeater) breeding sub-populations are fragmented and now occur mainly around the Capertee Valley in central-eastern NSW and the Bundarra-Barraba region in northern inland NSW. Minor and sporadic breeding occurs in other areas such as Warrumbungle National Park, Pilliga forests, Mudgee-Wollar region, and the Hunter and Clarence Valleys (DPIE 2019). The Regent Honeyeater inhabits eucalypt open forests and woodlands, predominantly box-ironbark types, but also Spotted Gum and Swamp Mahogany dominated areas on the coast. This species builds a cup-shaped nest of fibres located in forks in live eucalypt or she-oak canopy. A clutch of two or three eggs is laid from late winter to early summer, with multiple breeding attempts per season. The Regent Honeyeater mostly feeds on nectar from flowering eucalypts, especially Boxes and Ironbarks, and from Mistletoe (*Amyema cambagei*). They also feed on the sugary exudates of insects (e.g. lerps) which become an important part of their diet when breeding (DPIE 2019).
Fire Ecology	The Regent Honeyeater is recognised as a national priority bird species because an estimated 10% or more of its Area of Occupancy (AOO) was burnt in the 2019/20 bushfires (DoEE 2020). Prior to the 2019/20 bushfires there were estimated to be 250-400 individuals left in the wild (Crates *et al.* 2019). Key threats as a result of the bushfires include loss of potential breeding habitats to fire, impacts in unburnt refuges on breeding from competitor species such as Noisy Miners, and subsequent loss or minimal flowering of primary feed trees from a combination of drought and fire impacts (LLS 2020). Given the Regent Honeyeater's breeding season, from August to January, the 2019/2020 bushfires could have impacted breeding success both directly and indirectly. The Regent Honeyeater is known to undertake large-scale nomadic movements in the order of hundreds of kilometres, however, the exact nature of these movements is poorly understood. It is likely that movements are dependent on spatial and temporal flowering and other resource patterns (OEH 2020c). Open-forest eucalypts usually flower every year, but flowering season varies within and between species and sites (House

MNES	*Anthochaera Phyrgia* Regent Honeyeater
	1997; Peeters & Butler 2014). Most open forest eucalypt species develop a lignotuber in the early months of growth, and this enables them to survive all but the most severe fires, and to regrow rapidly if their crowns are damaged (Florence 1996; Peeters & Butler 2014). Severe fires may slow the growth of trees, but fires of low to moderate intensity are likely to have little effect on the growth of open forest eucalypt species (Florence 1996). Law *et al.* (2000) found that myrtaceous trees on the mid-north coats of NSW flowered at pre-fire level 1-3 years after both low-intensity burns and wildfires. Resprouting eucalypts have been found to produce flowers as soon as 139 weeks after fire (Kubiak 2009). As such, those areas affected by low to moderate severity fire may already (one-year post-fire) provide the eucalypt foraging resources required by the Regent Honeyeater. Loyn (1997) studied birds just before, and for three years after, a large wildfire in East Gippsland, Victoria. They found that bird abundance declined immediately after the fire, to an average of 60% of pre-fire levels. Honeyeaters were found to disappear after fire, due to a loss in eucalypt and shrub blossom, however their abundance reached 60% of pre-fire levels within three years of the fire. Prolific flowering can also occur after fire, with a study by Smith (1989) finding an increase in honeyeaters after bushfire in southern NSW. As such, an analysis of fire severity is important. High severity fires that reach the canopy can kill mistletoes (Gill 1996) which are an important foraging and nesting resource for Regent Honeyeaters.
Impact of fires to MNES habitat in Subject land and locality	Approximately 1,297.94 ha of suitable Regent Honeyeater foraging habitat in the form of associated PCT's occurs in the project footprint. Of that, FESM data indicates that approximately 66.27 ha (5%) of habitat within three PCT's (PCT 268, 280 and 287) in the Inland Slopes IBRA Subregion was severely burnt by the 2019/20 fires. In total, approximately 95% of all suitable Regent Honeyeater habitat (associated PCTs) recorded within the project footprint remained unburnt. Todd & Maurer (2020) produced a report which focuses on Key Biodiversity Areas (KBAs) affected by the 2019/20 bushfires. According to (Todd & Maurer 2020), 10% of the Regent Honeyeater's AOO was burnt nationally and 54% of unburnt AOO remained in KBA's. The South-west Slopes and Australian Alps KBAs are within 30 km of the project footprint. South-west Slopes KBA covers over 2.5 million hectares, of this, 243.38 ha (<1%) was burnt in the 2019/20 fires. The species Area of Occupancy (AOO) which was burnt has not been determined for this KBA (IUCN 2016; Todd & Maurer 2020). The Australian Alps KBA covers over 1.47 million hectares of this, 468,789.14 ha (32%) was burnt in the 2019/20 fires. The Australian Alps KBA, 100 hectares is mapped as the species AOO, and 0% of the AOO was burnt.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Regent Honeyeater was not detected within the project footprint during targeted surveys, there are 20 records within 20km of the project footprint (estimated 83 individuals) and the closest record is 6 km from the project footprint (DPE 2022). The project footprint contains associated PCTs and potential foraging habitat, including approximately 1,200.73 ha that was not severely burnt. The project footprint does not contain Regent Honeyeater Mapped Important Area (DPIE 2021b), however given this species is highly mobile there is the possibility that they may be more reliant on habitat within the project footprint until there is substantial recovery of foraging resources at burnt sites in the region and surrounds. The Regent Honeyeater has been listed as priority species requiring urgent management action. For all priority species, protecting unburnt areas within or adjacent to recently burnt ground that provide refuges is essential (DAWE 2020). Given the extent and severity of the 2019/20 bushfires across NSW, Regent Honeyeaters may be more reliant on habitat within the project footprint in the short-term. However, the Regent

MNES	*Anthochaera Phyrgia* Regent Honeyeater
	Honeyeaters habitat in proximity to the project footprint was not extensively burnt and it is unlikely the project footprint will have a discernible increase in Regent Honeyeater numbers. Furthermore, the mosaic of vegetation recovery throughout the burned landscape is likely to already provide foraging and nesting resources for this species. With an increase in time since fire at burnt sites, there is likely to be a return of this species to its favoured locations.
Is the population of the species in the area considered an important population post fires?	All remaining populations of Regent Honeyeater are considered to be an important population. There are no known populations of the species in the project footprint, and the project footprint is not within any known key breeding areas or areas mapped as important for the species, however the project will impact on foraging habitat for the species. The Regent Honeyeater is considered a single population throughout its range and is predominantly nomadic, moving through the landscape in response to the availability of foraging resources (Heinsohn et al. 2022). Between 10%-30% of the modelled likely or known distribution of the Regent Honeyeater is within the area burnt by the 2019/20 fires (DAWE 2020). Given the time since the fires and the mosaic of vegetation recovery it is reasonable to assume that the population of Regent Honeyeater in the area is unlikely to be an important population post fires.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.2 Pink-tailed Legless Lizard

Table A22- 14: Pink-tailed Legless Lizard bushfire impact assessment

MNES	*Aprasia paralchella* (Pink-tailed Legless Lizard)
General	*Aprasia parapulchella* (Pink-tailed Legless Lizard) is worm-like and grow to about 25 cm in length. This species typically inhabits sloping, grassy woodlands that are well-drained and contain rocky outcrops. The predominant vegetation is Kangaroo Grass (*Themeda australis*) in the majority of sites (Jones 1992, 1999 cited in IUCN 2022). Commonly found beneath small, partially embedded rocks and appear to spend considerable time in burrows below these rocks that have been constructed by small black ants and termites (DPE 2022). This species' distribution is apparently patchy, but it is difficult to detect (IUCN 2022). The species is a dietary specialist that feed mainly on ant larvae and eggs. It is suspected that Pink-tailed Legless Lizard lays its eggs inside ants nests during breeding season (IUCN 2022). The Pink-tailed Legless Lizard is only known from the Central and Southern Tablelands, and the South Western Slopes. There is a concentration of populations in the Canberra/Queanbeyan Region (DPE 2022).
Fire Ecology	This species faces some threats that may have been exacerbated as a result of the 2019/20 bushfires, including habitat loss and fragmentation, habitat degradation through invasion of habitat by weeds and changed fire regimes that result in changes to vegetation structure and composition (DPE 2022).

MNES	*Aprasia paralchella* (Pink-tailed Legless Lizard)
	A review of several studies on the impacts of the 2019/2020 bushfires has found that reptile species richness may be higher in burnt sites than unburnt, suggesting that burnt areas may be used preferentially for foraging by survivors and/or immigrants (Price et.al 2022).
Impact of fires to MNES habitat in Subject land and locality	Approximately 1,523.97 ha of suitable Pink-tailed Legless Lizard habitat in the form of three associated PCT's (PCT 278, 280 and 290) occurs in the project footprint. Of this, FESM data indicates that approximately 1.36 ha (0.1%) of suitable Pink-tailed Legless Lizard habitat in the Inland Slopes IBRA Subregion was severely burnt by the 2019/20 fires. In total, approximately 99.9% of all suitable Pink-tailed Legless Lizard habitat (associated PCT's) recorded within the project footprint remains unburnt. There is no data available in the current literature on the impact of the 2019/2020 bushfires on this species in NSW. Therefore, the impact of the 2019/2020 bushfires on this species cannot be accurately determined.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Pink-tailed Legless Lizard individuals were identified within the project footprint during targeted surveys and the project footprint contains associated PCTs and suitable habitat, including approximately 1,522.619 ha that was not severely burnt. Given the extent and severity of the 2019/20 bushfires across NSW, there is the possibility that Pink-tailed Legless Lizard may be more reliant on habitat within the project footprint until there is substantial recovery of habitat at burnt sites in the region and surrounds. However, given the time since the fire and that studies have found that reptiles generally respond positively to bushfire as burnt areas are used preferentially for foraging by survivors and/or immigrants (Price et.al 2022).
Is the population of the species in the area considered an important population post fires?	Reptile species richness is known to have a positive response in bushfire affected areas (Price et.al 2022). This species was identified within the project footprint during targeted surveys, and one record was within an area that was severely burnt by the 2019/20 fires, suggesting that the burned landscape is already providing habitat for this species and the species can persist in severely burned areas. Therefore, it is reasonable to assume that the population of Pink-tailed Legless Lizards in the area is unlikely to be an important population post fire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.3 Gang-gang Cockatoo

Table A22- 15: Gang-gang Cockatoo bushfire impact assessment

MNES	*Callocephalon fimbriatum* (Gang-gang Cockatoo)
General	The population size of *Callocephalon fimbriatum* (Gang-gang Cockatoo) is estimated to be between 17,600 and 35,200 mature individuals with a decreasing population trend (IUCN 2022). Gang-gang Cockatoos are distributed from southern Victoria through south- and central-eastern New South Wales. In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes (DPE 2022). The Gang-gang Cockatoo favours old growth forest and woodland attributes for nesting

MNES	*Callocephalon fimbriatum* (Gang-gang Cockatoo)
	and roosting. Nests are found in hollows that are 7 cm in diameter or larger in eucalypts and 3 metres or more above the ground. In spring and summer, Gang-gangs are generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas. This species faces many threats that may potentially have been exacerbated as a result of the 2019/20 bushfires, including loss of key breeding and foraging habitat from intensive wildfire events and inappropriate hazard reduction burns (DPE 2022).
Fire Ecology	According to Loyn's (1997) study, large hollow nesting birds appear to recover more slowly from large scale bushfire events, with the Gang-gang Cockatoo in particular remaining uncommon after three years. However, the Gang-gang Cockatoo has been recorded by Niche on several occasions within severely burned PCTs within the project footprint. This would suggest that the species has returned to severely burned PCTs.
Impact of fires to MNES habitat in Subject land and locality	Approximately 2,534.02 ha of suitable Gang-gang Cockatoo habitat in the form of associated PCTs occurs in the project footprint. Of this, FESM data indicates that approximately 518.69 ha (20%) of suitable Gang-gang Cockatoo habitat was severely burnt by the 2019/20 fires. The majority of suitable habitat in the project footprint was severely burnt in the Inland Slopes (241.89 ha or 46%), followed by the Snowy Mountains IBRA Subregion (167.94 ha or 32%), and Bondo (108.86 ha or 21%). In total, approximately 80% of all suitable Gang-gang Cockatoo habitat (associated PCT's) recorded within the project footprint remains unburnt. The Gang-gang Cockatoo is on the provisional list of animals requiring urgent management intervention (DAWE 2020). The priority animals were identified based on the extent to which their range has potentially been burnt, how imperilled they were before the fires, and the physical, behavioural and ecological traits which influence their vulnerability to fire. Most of the animals on this list have had at least 30% of their range burnt (DAWE 2020). Todd & Maurer (2020) produced a report which focuses on Key Biodiversity Areas (KBAs) affected by the 2019/20 bushfires. According to (Todd & Maurer 2020), 26% of the Gang-gang Cockatoo's AOO was burnt nationally and 18% of unburnt AOO remained in KBA's. The South-west Slopes and Australian Alps KBAs are within 30 km of the project footprint. South-west Slopes KBA covers over 2.5 million hectares. Of this, 243.38 ha (<1%) was burnt in the 2019/20 fires. The Australian Alps KBA covers over 1.47 million hectares of this, 468,789.14 ha (32%) was burnt in the 2019/20 fires.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint contains associated PCTs and suitable habitat, including approximately 2,015.33 ha that was not severely burnt. A reduction in suitable Gang-gang Cockatoo habitat surrounding the project footprint due to 2019/2020 bushfires may cause some surviving individuals to rely more on habitat in the project footprint, at least until there is extensive recovery of the canopy for foraging and breeding at burnt sites in the region and surrounds. However, given the large extent of unburnt habitat in proximity to the project footprint (99.1%), there is unlikely to be a discernible increase in Gang-gang Cockatoo numbers. Similarly, 80% of habitats within the project footprint remain unburnt.

MNES	*Callocephalon fimbriatum* (Gang-gang Cockatoo)
	This species was recorded within severely burned PCTs within the project footprint, suggesting that the mosaic of vegetation recovery throughout the burned landscape is already providing some resources for this highly mobile species, thereby decreasing the importance of the areas of habitat that were not burnt. With an increase in time since fire at burnt sites, there is likely to be a return of this species to its entire AOO.
Is the population of the species in the area considered an important population post fires?	This species' is considered to have a poor response to bushfire (Loyn 1997), and around 26% of its AOO was burnt nationally (Todd & Maurer 2020). However, numerous Gang-gang Cockatoo's were recorded within severely burned PCTs within the project footprint, suggesting that the burned landscape is already providing resources for this species. Therefore, it is reasonable to assume that the population of Gang-gang Cockatoo in the area is unlikely to be an important population post fire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.4 Painted Honeyeater

Table A22- 16: Painted Honeyeater bushfire impact assessment

MNES	*Grantiella picta* (Painted Honeyeater)
General	*Grantiella picta* typically inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of Black Box *(Eucalyptus largiflorens)* and River Red Gum *(E. camaldulensis)*, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes (TSSC 2015). It is a specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias, primarily mistletoes of the genus *Amyema* (TSSC 2015). The Painted Honeyeater is nomadic and occurs at low densities throughout its range, generally moving north-west into semi-arid regions of the interior in winter and returning southward in spring or summer. The greatest concentrations of the birds and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria, and southern Queensland. Small, delicate nests are built hanging within the outer canopy of drooping eucalypts, she-oaks, paperbarks or mistletoe branches (Commonwealth of Australia 2021a). The main suspected threats to the Painted Honeyeater are destruction of habitat due to agriculture and grazing or insect-induced eucalypt dieback, reduced regeneration in suitable habitat due to grazing by livestock and rabbits, and competition with *Dicaeum hirundinaceum* (Mistletoe Bird) and larger, more aggressive honeyeaters (Qld Government).
Fire Ecology	Painted Honeyeaters can be affected by intense bushfires, which burn the tree canopy, destroying nests, and resulting in mistletoe mortality (Commonwealth of Australia 2021a). Most eucalypts, which the species will use as habitat, have developed strategies for regeneration after fire, especially from epicormic shoots that re-sprout from beneath the bark. A few years post bushfire, most

MNES	*Grantiella picta* (Painted Honeyeater)
	eucalypts have re-gained their canopy foliage. The mistletoes that infested them, however, which Painted Honeyeaters rely heavily on for food, have no such fire resistance, and are generally killed off by bushfires (Fagg 2012).
Impact of fires to MNES habitat in Subject land and locality	Approximately 755.64 ha of suitable Painted Honeyeater habitat in the form of associated PCT's (268, 287 & 290) occurs in the project footprint. Of this, FESM data indicates that approximately 67.86 ha (9%) of habitat was severely burnt by the 2019/20 fires, all within the Inland Slopes IBRA subregion. In total, approximately 91% of all suitable Painted Honeyeater habitat (associated PCT's) recorded within the project footprint remains unburnt.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint contains associated PCTs and suitable habitat for foraging and nesting, including approximately 687.78 ha that was not severely burnt. There were no recorded sightings of the Painted Honeyeater within the project footprint during targeted fauna surveys or incidentally during any other surveys. There are 22 records within the broader Inland Slopes IBRA subregion, three of which occur within 20km of the project footprint, and one which occurs within 5km. Painted Honeyeaters have been found to be more abundant in locations where there are a large number of trees present and a high percentage of canopy cover (Commonwealth of Australia 2021). Although many of the trees the Painted Honeyeater uses for habitat are known to readily regenerate post bushfire (eg. Eucalypts), populations of mistletoe, which they rely on for food, are often decimated by intense bushfires (Fagg 2012). If a mistletoe population is killed by fire, a source of seed outside the burned area is needed to replenish it, often via *Dicaeum hirundinaceum* (Mistletoe bird) (Gill 1996). The rate and timing of reinvasion of Mistletoe post fire is unknown, as it can be highly variable dependent on the area affected by fire and distance from surviving Mistletoe populations. A study conducted by Van & Yan (2006) found that when looking at two mistletoe species, *Amyema preissii* and *Lysiana exocarpi,* they both had a proportion of individuals on host species flower and set fruit within 3 years. This would indicate that Mistletoe recolonisation within unburnt lands within the project footprint could be expected within the given post-fire timeframes. The proportion of bushfire impacts across the range of the Painted Honeyeater is unknown. However, given the species' broad range and mobility and the ongoing availability of suitable habitats throughout its range, it could be reasonably concluded that unburnt habitats within the project are of no greater importance following the 2019/20 bushfires.
Is the population of the species in the area considered an important population post fires?	Painted Honeyeater was not recorded within the project footprint during field surveys. Historic records within 20km of the footprint indicate presence of the species within the locality. Considering the dispersive habit of the Painted Honeyeater, the species is considered to have a single population (Commonwealth of Australia 2021a). The proportion of bushfire impacts across the range of the Painted Honeyeater is unknown. However, given the species' broad range and mobility and the ongoing availability of suitable habitats throughout its range, it could be reasonably concluded that the species population is of no greater importance following the 2019/20 bushfires.

MNES	*Grantiella picta* (Painted Honeyeater)
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.5 White-throated Needletail

Table A22- 17: White-throated Needletail bushfire impact assessment

MNES	*Hirundapus caudacutus* (White-throated Needletail)
General	*Hirundapus caudacutus* (White-throated Needletail) is a migratory bird that is usually seen in eastern Australia from October to April. This species breeds in forests in south-eastern Siberia, Mongolia, the Korean Peninsula and northern Japan June-August. Most often seen in eastern Australia before storms, low pressure troughs and approaching cold fronts and occasionally bushfire. These conditions are often used by insects to swarm (eg termites and ants) or tend to lift insects away from the surface which favours sighting of White-throated Needletails as they feed (DPE 2022). The global population size of White-throated Needletail has not been quantified but is suspected to be stable in the absence of evidence for any declines or substantial threats (IUCN 2022). This species faces some threats that may have been exacerbated as a result of the 2019/20 bushfires, including Loss of forest and woodland habitats (vegetation clearing) which may have also resulted in the reduction of invertebrate prey (DPE 2022). The loss of roosting sites in Australia may also be contributing to the decline of the species (Tarburton 2014 cited in TSSC 2019). It is thought that logging of taiga forests in Siberia, where most of the population breeds, poses the greatest risk by removing hollows which this species uses to breed (Newell et al. 2000; Crowley 2005; Smirnov et al. 2013 cited in TSSC 2019).
Fire Ecology	There is insufficient data available on this species response to fire, however, woodland bird species richness and abundance response in response to wildfire was found to be overwhelmingly negative (Gibson et al. 2021). A key consideration of post-fire fauna response is proximity to unburnt areas, which can facilitate quicker post-fire recovery of forest birds (Murphy et al. 2021 cited in Gibson et al. 2021).
Impact of fires to MNES habitat in Subject land and locality	Approximately 1,770.59 ha of suitable White-throated Needletail habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 519.58 ha (29%) of suitable White-throated Needletail habitat was severely burnt by the 2019/20 fires. The majority of suitable habitat in the project footprint was severely burnt in the Inland Slopes (241.89 ha or 47%) followed by Snowy Mountains (168.84 ha or 32%) and Bondo (108.86 ha or 21%). In total, approximately 71% of all suitable White-throated Needletail habitat (associated PCTs) recorded within the project footprint remains unburnt. Analysis undertaken by the Australian Government Department of the Environment and Energy found that 10 to <30% of the species modelled likely and known distribution in ACT, NSW, Qld, SA, Tas, Vic was within 2019/2020 fire affected areas (NSW) (DEE 2020).

MNES	*Hirundapus caudacutus* (White-throated Needletail)
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	White-throated Needletail have been recorded from the locality and are considered likely to fly over or forage within the project footprint, including approximately 1,251.01 ha that was not severely burnt. Given the impact of the 2019/20 bushfires on the species modelled likely and known distribution (DEE 2020), it is likely that this migratory species may be more reliant on foraging and roosting habitat within the project footprint, until there is substantial recovery of foraging resources in the region and surrounds. However, considering the extent of unburnt habitat in proximity to the project footprint, there is unlikely to be a discernible increase in White-throated Needletail numbers. There are 74 records (569 estimated individuals) of White-throated Needletail within 20 km of project footprint (DPE 2022a). Only four of the pre-2019/20 bushfire records were in areas which were severely burnt, indicating that areas utilised by White-throated Needletail within proximity to the project footprint were not severely burnt, therefore decreasing the potential need for this species to utilise habitat in the project footprint. Therefore, it is reasonable to assume that the habitat of White-throated Needletail in the area is unlikely to be considered more important post fires.
Is the population of the species in the area considered an important population post fires?	White-throated Needletail was not recorded in the project footprint, however they are considered likely to fly over or forage within the project footprint as there are records within 20km of the site, with the closest record only 0.8 km from the project footprint. The response of White-throated Needletail to wildfire is not well documented, however, given the impact of the 2019/20 bushfires on the species modelled likely and known distribution (DEE 2020). Given the time since the fires and the mosaic of vegetation recovery it is reasonable to assume that the population of White-throated Needletail aren't likely to be considered more important post fires.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.6 Swift Parrot

Table A22- 18: Swift Parrot bushfire impact assessment

MNES	*Lathamus discolor* (Swift Parrot)
General	There is estimated to be less than 300 *Lathamus discolor* (Swift Parrot) left in the wild (Olah *et al.* 2020). This species breeds during the Australian summer and only in Tasmania (Webb *et al.* 2019), therefore the subregions affected by the 2019/20 bushfires contain non-breeding habitat for this species only. This species has a broad winter migration range, therefore anywhere with prolific eucalypt flowering during this period has the potential to provide important habitat for this species. On mainland Australia, Swift Parrots are found in dry sclerophyll forests including Spotted Gum, Swamp Mahogany, Ironbark, Grey Gum and Blackbutt dominated vegetation. The TECs that provide habitat for the Swift Parrot include Swamp sclerophyll forest on floodplains, dominated by Swamp Mahogany and Lower Hunter Spotted Gum – Ironbark forest, dominated by the distinctive Spotted Gum, and Ironbarks, and Box-Gum Grassy Woodland, dominated by Yellow Box. Swift Parrots roost communally, often in the same tree each night and only come to the ground to drink from puddles (LLS 2019). A study in Box-Ironbark forests and woodlands of Victoria found the Swift Parrot relied heavily on drainage lines and foraged on 12 eucalypt and one Acacia species (Kennedy & Tzaros 2005).

MNES	*Lathamus discolor* (Swift Parrot)
Fire Ecology	Too frequent fire events affecting flowering in foraging habitat is listed as a key threat to the Swift Parrot which is likely to have contributed to its decline in NSW (DPE 2022; Saunders et al. 2010). Wildfire impacts Swift Parrot habitat by altering tree flowering phenology (Woinarski & Recher 1997) and tree cavity availability (Inions et al., 1989; Gibbons et al., 2000). At one known nesting location for Swift Parrots, greater than 60 per cent of nest trees collapsed within one year after a wildfire (TSSC 2016).
Impact of fires to MNES habitat in Subject land and locality	Approximately 1,608.76 ha of suitable Swift Parrot foraging habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 241.97 ha (15%) of suitable Swift Parrot habitat in the Inland Slopes IBRA Subregion and 0.01 ha in the Bondo IBRA Subregion was severely burnt by the 2019/20 fires. In total, approximately 85 % of all suitable Swift Parrot foraging habitat (associated PCTs) recorded within the project footprint remains unburnt. Given that this species would not have been in NSW during the 2019/20 bushfires and would not have impacted breeding success directly, the main threat as a result of the fires is loss of foraging resources. With an increase in time since fire at burnt sites, there is likely to be a return of this species throughout the landscape.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The Swift Parrot was not recorded in the project footprint during targeted surveys. There are 69 records in the project locality (675 estimated individuals) focused on western extent of the project footprint. All records are outside the project footprint, with the closest record 1 km from the boundary of the project footprint. No pre 2019/2020 fire records of this species occur within severely burnt areas. Where required nectar resources were impacted as a result of the fires, it is possible that Swift Parrot may be more reliant on unburnt habitats within the project footprint for foraging. However, given it is almost three years post-fire and field observations within burnt habitats indicate substantial recovery, it is likely that vegetation has recovered sufficiently to support flowing and associated foraging opportunities for Swift Parrot. The project footprint does not contain Swift Parrot Mapped Important Area (DPIE 2021b) and is not considered to support breeding. Given the above, remaining unburnt habitat within the project footprint is not considered of greater importance to the survival of the species.
Is the population of the species in the area considered an important population post fires?	The project footprint is not within any known key breeding areas or areas mapped as important for the species. Swift Parrot populations, where they occur within the locality, would be considered an important population given the species' critically endangered conservation status regardless of any interactions with the 2019/20 fires. Given the time since the fires and the mosaic of vegetation recovery observed within the locality it is reasonable to conclude there has been no change to the status of populations within the project footprint, where they occur.

MNES	*Lathamus discolor* (Swift Parrot)
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.7 Yellow-spotted Tree-Frog

Table A22- 19: Yellow-spotted Tree-frog bushfire impact assessment

MNES	*Litoria castanea* (Yellow-spotted Tree-Frog)
General	*Litoria castanea* (Yellow-spotted Tree Frog) are large, long-lived and mostly aquatic tree frogs, with only small finger and toe pads (DPE 2022). Following the chytrid virus pandemic in the 1970s, this species went unrecorded for 30 years and was believed to be extinct, until it was rediscovered in 2009 on the Southern Tablelands, near Yass. This population remains the only known extant site of the species (DPE 2022). Yellow-spotted Tree Frog require large permanent ponds or slow flowing 'chain-of-ponds' streams with abundant emergent vegetation such as bulrushes and aquatic vegetation and shelter during autumn and winter under fallen timber, rocks, other debris or thick vegetation (DPE 2022). This species faces many threats including disease from the chytrid fungus and changes to natural water flows and water quality. (DPE 2022). These threats may potentially have been exacerbated because of the 2019/20 bushfires.
Fire Ecology	The impacts of fire on frogs have not been well studied. The few studies that have been undertaken suggest that frogs are generally not significantly impacted by fire, they remain present in burned areas though their abundance levels are lower during the first few years following a fire (Gillespie & West 2012). Impacts resulting from occurrence of wildfires on amphibians may include; Direct mortality of individuals caused by the immediate impacts of the fire, loss of food source, immediate impact of debris flow following fire on survival of individuals, loss of critical habitat features, increased predation pressure, small population size effects (inbreeding depression, vulnerability to localized disturbances), disease, change in importance of other populations (Geary et al. 2021).
Impact of fires to MNES habitat in Subject land and locality	Approximately 35.98 ha of suitable Yellow-spotted Tree Frog habitat in the form of associated PCT's occurs within the project footprint in open dry sclerophyll forest with permanent streams, fringing vegetation, and rocky pooling habitats. Of this, FESM data indicates that approximately 1.77 ha (5%) of suitable Yellow-spotted Tree Frog habitat in the Snowy Mountains IBRA Subregion was severely burnt by the 2019/20 fires. In total, approximately 95% of all suitable Yellow-spotted Tree Frog habitat (associated PCTs) recorded within the project footprint remained unburnt.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	This species was not recorded in the project footprint during targeted surveys, however the project footprint contains associated PCTs and approximately 34.21 ha that was not severely burnt. There is only one known extant site of the species near Yass located outside the project footprint and around 30% of the species habitat within the locality was within the severely burnt areas. Considering there are no records within

MNES	*Litoria castanea* (Yellow-spotted Tree-Frog)
	the project footprint and there is only a small area of suitable habitat located within the project footprint it can assumed that the remaining habitat isn't considered of greater importance.
Is the population of the species in the area considered an important population post fires?	This species was not recorded in the project footprint during targeted surveys, however there are two records (400 estimated individuals) adjacent to the project footprint, with the closest record 9 km outside the project boundary (DPE 2022a). None of these records (pre-2019/20 bushfire) were in severely burnt areas, indicating that known Yellow-spotted Tree Frog habitat within 20 km of the project footprint was not severely burnt by the 2019/20 bushfires, therefore decreasing the potential need for Yellow-spotted Tree Frog to move into the project footprint. This is further evidenced by Yellow-spotted Tree Frog survey data collected since the 2019/20 bushfires, which suggests that there has not been an increase in the population within the project footprint. Furthermore, frogs are generally not significantly impacted by fire and though their abundance levels are lower during the first few years following a fire, they remain present in burned areas (Gillespie & West 2012). Therefore, it is reasonable to assume that the 2019-2020 bushfire would not have significantly impacted this species conservation and the population of Yellow-spotted Tree Frog in the area is unlikely to be an important population post fires.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.8 Broad-toothed Rat

Table A22- 20: Broad-toothed Rat bushfire impact assessment

MNES	*Mastacomys fuscus* (Broad-toothed Rat)
General	The Broad-toothed Rat is a terrestrial and mostly nocturnal rodent. It is herbivorous, with grasses and sedge stems forming the major component of its diet, supplemented by seeds and moss spore cases. In NSW, the Broad-toothed Rat occurs in two widely separated areas: the wet alpine and subalpine heaths and woodlands of Kosciuszko National Park, Bimberi and Scabby Nature Reserves, and Buccleuch State Forest in the south of the State, and on the Barrington Tops, north-west of Newcastle (TSSC 2016b). The species occupies a range of habitats across its range, but typically is highly selective in any region. Preferred habitats include alpine and subalpine heathlands, grasslands adjacent to boulder outcrops, swamps, sedgelands, coastal grassy or shrubby dunes, and sometimes forests with grassy understores. Habitats suitability is largely determined by the availability of cover and grasses (TSSC 2016b). The species lives in a complex of runways through the dense vegetation of its wet grass, sedge, or heath environment, and under the snow in winter. This relatively warm under-snow space enables it to be active throughout winter. Sheltering nests of grass are built in the understorey or under logs, where two or three young are born in summer. In winter, the rats huddle together in nests, for warmth (TSSC 2016b).

MNES	*Mastacomys fuscus* (Broad-toothed Rat)
	Major threats to the Broad-toothed Rat are predation by foxes, too frequent burning, predation by feral cats, habitat loss and fragmentation and global climate change. Habitat change (and resource depletion) due to livestock and feral herbivores and competition with other native rodents are also moderate threats to the species (TSSC 2016b).
Fire Ecology	Research has shown that an increase in fire frequency within alpine bog communities is predicted to increase the number of peaty sedgelands, grasslands and heath, while decreasing the number of *Sphagnum* peatlands (Milner et al. 2016). While an increase in sedgelands, grasslands and heath vegetation is likely to increase available habitat for the Broad-toothed Rat in the long term, high intensity fire is likely to significantly impact populations in the period immediately following fires, through direct mortality, and loss of resources such as food and shelter. Even in unburnt areas, predation by foxes on the Broad-toothed Rat and other small mammals has been shown to increase following fires, with predation concentrated in areas still carrying populations (Milner et al. 2016).
Impact of fires to MNES habitat in Subject land and locality	Approximately 10.74 ha of suitable Broad-toothed Rat habitat in the form of an associated PCT (679) occurs in the project footprint. Of this, FESM data indicates that approximately 5.85 ha (54%) of suitable Broad-toothed Rat habitat was severely burnt by the 2019/20 fires, all within the Snowy Mountains IBRA subregion. In total, approximately 46% of all suitable Broad-toothed Rat habitat (associated PCTs) recorded within the project footprint remains unburnt. A study done to determine estimates of the impacts of the 2019-20 fires on populations of native animal species found that the most plausible percentage population loss for the Broad Toothed Rat one week after severe fire was 70.3%. The estimated population loss for 10 years post severe was still 61% (Legge et al. 2021).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint contains an associated PCT and suitable habitat, including approximately 4.89 ha that was not severely burnt. There were no recorded sightings of the Broad-tooted Rat within the project footprint during targeted fauna surveys or incidentally during any other surveys. One record from 2004 occurs immediately adjacent to the project footprint within the Bago State Forest. Consultatoin with the NSW Forestry Corporation indicates the presence of suitable Broad-toothed Rat habitats at this locality. Review of BioNet indicates there are 630 records within the broader Snowy Mountains IBRA subregion, 90 of which occur within 20km of the project footprint. Research found that the 2019-20 bushfire event impacted on 36.6% of likely Broad-toothed Rat habitat (NSW Government 2021). Previous studies have shown persistence of the Broad-toothed Rat in unburnt habitat, and good dispersion and recolonisation post high intensity fire (Carey et al. 2003). While large habitat patches are likely to support larger populations, there is no evidence that patch size influences population persistence (Milner et al. 2016). Therefore, it is likely that the remaining habitat within the project footprint is of substantially greater importance to the survival of the species following the fires.

MNES	*Mastacomys fuscus* (Broad-toothed Rat)
Is the population of the species in the area considered an important population post fires?	Despite the increased risk of predation by foxes following bushfires and the loss of individuals due to direct mortality, if the species was present in the project footprint pre 2019/2020 bushfires, it is reasonable to assume that it would have persisted within adjacent unburnt habitats. The largest population of Broad-toothed Rats in NSW is in Kosciuszko National Park, located approximately 70 km south of the alignment. Even though the population in Barrington Tops near Newcastle is considered to have the most significant conservation value (endangered population) (NSW SC 20011), with the loss of available habitat for populations in the Snowy Mountains IBRA subregions as a result of the 2019/2020 bushfires, any remaining populations that may occur within the project footprint are considered important populations post fire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.9 Yellow-bellied Glider

Table A22- 21: Yellow-bellied Glider bushfire impact assessment

MNES	*Petaurus australis* (Yellow-bellied Glider)
General	The Yellow-bellied Glider is a large, active, sociable and vocal glider. Adults weigh 450-700 g and have a body length of about 30 cm and a large bushy tail that is about 45 cm long. It has grey to brown fur above with a cream to yellow belly. Yellow-bellied Glider occur in tall mature Eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. They are very mobile and occupy large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources (DAWE, 2022d). A population of Yellow-bellied Glider on the Bago Plateau, adjacent to the south-western edge of Kosciuszko National Park, is listed as an Endangered Population (under the BC Act 2016) on the basis that it was considered disjunct, near the limit of the species' geographic range and predicted to decline (Anon 2014). The extent of this population intersects the project footprint within the Snowy Mountains IBRA subregion. This species faces many threats that may have been exacerbated as a result of the 2019/20 bushfires including, loss of habitat and resources such as sap trees and live hollow-bearing trees (DAWE 2022d).
Fire Ecology	Yellow-bellied Gliders are considered to be one of the species most heavily impacted by severe fire (Legge *et al* 2021). Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire (Lindenmayer *et al* 2022). Yellow-bellied Gliders also have a preference for living hollow-bearing trees, and consumption of hollows as a result of fire is particularly harmful to this species (DAWE 2022d).

MNES	*Petaurus australis* (Yellow-bellied Glider)
	A recent study of the Bago Plateau Yellow-bellied Glider population indicates a 26% reduction in the population was detected six to twelve months post-fire (ie spring / autumn 2020/21) (Bilney, et al 2022). Extinction probability at surveyed sites significantly increased within areas of high bushfire severity. However, no impact on species occupancy was detected within low burn severity areas, indicating pockets of unburnt and low-severity fire-affected forests may serve as refugia from wildfire (Bilney, et al 2022).
Impact of fires to MNES habitat in Subject land and locality	Approximately 751.13 ha of suitable Yellow-bellied Glider habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 274.06 ha (36%) of suitable Yellow-bellied Glider habitat was severely burnt by the 2019/20 fires. The majority of suitable habitat in the project footprint was severely burnt in the Snowy Mountains IBRA Subregion (162.36 ha or 59%), followed by Bondo (109.87 ha or 40%) and Inland Slopes (1.82 ha or 1%). In total, approximately 64% of all suitable Yellow-bellied Glider habitat (associated PCT's) recorded within the project footprint remained unburnt. The 2019/2020 bushfires intersected with 41% of the distribution of Yellow-bellied gliders (Legge *et al* 2021). Previous fires have been previously observed to eliminate Yellow-bellied Gliders from an area for at least 15 years and result in local extinctions. Site-level population declines from the 2019/2020 bushfires are estimated at 82% for severely affected sites using expert elicitation and post-fire on-ground surveys suggests that declines may be up to 83-97% (Legge *et al* 2021). A recent study of the Bago Plateau Yellow-bellied Glider population indicates a 26% reduction in the population was detected six to twelve months post-fire (ie spring / autumn 2020/21) (Bilney, et al 2022). Whilst severely burnt habitats are likely to be providing continued foraging opportunities for Yellow-bellied Glider, there is likely to be reduced availability of suitable hollows within burnt habitats through the consumption of stags and hollow limbs. Yellow-bellied Glider occupancy is known to be strongly correlated with hollow availability (Bilney, et al 2022).There is potential that the species would be more reliant on unburnt habitats for breeding and roosting until additional tree hollows develop.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint has suitable foraging and breeding habitat in the form of tall mature eucalypts forests and hollow-bearing trees. The project footprint contains associated PCTs and suitable habitat, including 477.07 ha that was not severely burnt. There are 540 records within 5km of the project footprint, including 19 known records in the Snowy Mountains IBRA Subregion, 10 in Bondo situated within the project footprint and one record in Inland Slopes in the adjacent landscape assessment area (ie within 500 metres of the project footprint). The project footprint has a substantial amount of unburnt area and important habitat, (ie hollow-bearing trees). It has been previously seen that arboreal mammal population numbers increase in unburnt areas post fires (Banks *et al* 2011). Considering the effects severe bush fires have on Yellow-bellied Gliders and their habitat, any remaining habitat of Yellow-bellied Gliders in the project footprint is likely to be considered more important post fires.

MNES	*Petaurus australis* (Yellow-bellied Glider)
Is the population of the species in the area considered an important population post fires?	29 Yellow-bellied Gliders were recorded in the project footprint or within the buffer during the surveys, post 2019/2020 bushfires. Considering the effects severe bush fires have on Yellow-bellied Gliders numbers and their habitat, any remaining populations of Yellow-bellied Gliders in the project footprint are likely to be considered more important post fires, until there is substantial recovery of suitable habitat and populations in the region and surrounds.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.10 Greater Glider

Table A22- 22: Greater Glider bushfire impact assessment

MNES	*Petauroides volans* (Greater Glider)
General	The Greater Glider is the largest gliding possum with a head and body length of 350-460mm and a long furry tail measuring 450-600mm. The Greater Glider has thick fur that increases its apparent size. The Greater Glider occurs in Eucalypt forests along the ranges and coastal plains of eastern Australia (from Central Victoria to around Cairns, Queensland) (DPE 2022). The species is folivorous with a diet mostly comprising eucalypt leaves supplemented by buds and flowers (Commonwealth of Australia 2021a). During the day, Greater Glider shelters in tree hollows with a preference for large (ie > 10 cm) hollows. Both live and standing dead trees are used for denning. Greater Glider faces many threats that may potentially have been exacerbated as a result of the 2019/20 bushfires, including too frequent or high severity fires impacting the population and hollow bearing trees and small population size susceptible to unmanageable threats including loss of individuals and threats impacting habitat quality and food availability (DPE 2022).
Fire Ecology	Hollow-dependant arboreal mammals have been observed to respond poorly to wildfire, with populations observed to continue declining long after the fire (Lindenmayer et al 2022). A recent study in Monga National Park showed that within a year post fire Greater Glider were found within burnt areas, with the highest population density within low intensity burn areas. This study suggests that the species may take refuge within areas of low intensity burn during bushfire, and will readily return to burnt habitats (May-Stubbles 2022). Greater Glider's response to the 2019/20 bushfires would largely be influenced by the ongoing availability of suitable foraging and denning resources within its home range. Given the species is a folivore and active regeneration and resprouting was observed within severely burnt areas within the project footprint, it is likely these areas continue to support foraging opportunities for the species. Field surveys detected the species on numerous occasions within burnt lands situated within the project footprint. This confirms burnt habitats are being utilised. However, it is possible that the fires have reduced the availability of suitable dens within burnt habitats through the consumption of stags and hollow limbs. Given this there is potential that the species would be more reliant on unburnt habitats for breeding and roosting until additional tree hollows develop.

MNES	*Petauroides volans* (Greater Glider)
Impact of fires to MNES habitat in Subject land and locality	Approximately 390.48 ha of suitable Greater Glider habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 125.46 ha (32%) of suitable Greater Glider habitat was severely burnt by the 2019/20 fires. Severely burnt was situated within the Snowy Mountains IBRA Subregion (62.93 ha) and the Bondo IBRA subregion (62.52 ha). In total, approximately 68% of all suitable Greater Glider habitat (associated PCT's) recorded within the project footprint remained unburnt. Given the Greater Glider's breeding season, from February to May, with births occurring between April and June, the 2019/20 bushfires could have impacted breeding success for that season. Breeding in the years following the fires may have also been impacted due to a potential reduction and increased competition for suitable dens. The Greater Glider is on the provisional list of animals requiring urgent management intervention (DAWE 2020). The priority animals were identified based on the extent to which their range has potentially been burnt, how imperilled they were before the fires, and the physical, behavioural and ecological traits which influence their vulnerability to fire. Most of the animals on this list have had at least 30% of their range burnt (DAWE 2020). Drastically, for the greater glider endangered population in Eurobodalla in the South Coast region of New South Wales, 81% of records were within the fire affected ground and more than 25% of records in areas where the canopy has been fully affected (DPIE 2020a).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	Greater Gliders were identified within the project footprint during spotlighting surveys (Snowy Mountain, Bungonia and Bondo IBRA subregion) and the project footprint contains associated PCTs and suitable habitat (containing hollow bearing trees), including approximately 265.02 ha that was not severely burnt. Given the extent and severity of the 2019/20 bushfires across NSW and that this species has been listed as a priority species requiring urgent management intervention, it is likely that Greater Glider's may be more reliant on habitat (in particular the hollow bearing trees) within the project footprint until there is substantial recovery of breeding resources at burnt sites in the region and surrounds.
Is the population of the species in the area considered an important population post fires?	Greater Gliders persist within the project footprint and surrounding locality. It is unknown the extent of bushfire impacts more broadly across the species range. However, it is unlikely that populations within the project footprint would be of any more importance following the 2019/20 bushfires given the likely persistence of the species elsewhere within its broader range (much of this remaining unaffected by the fires).
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.11 Koala

Table A22- 23: Koala bushfire impact assessment

MNES	*Phascolarctos cinereus* (Koala)
General	*Phascolarctos cinereus* (Koala) are usually solitary, however they are territorial and individual home ranges may overlap (SEWPaC 2012). The home range of a Koala can vary according to many factors, including habitat quality, structure and connectivity. A Koala's home range in poor habitat quality is generally larger than a Koala's home range in high quality habitat (SEWPaC, 2012). A dominant male Koala's home range usually overlaps with several females (Eco Logical, 2013), the extent of which is established during the mating season (Queensland Government, 2020). The Lower Hunter Koala Expert Workshop (Koala Expert Workshop) reports Koala populations in Yengo National Park to have an estimated home range of 80 ha due to low quality habitat (Eco Logical, 2013). In comparison, a home range of 10 ha with high quality habitat is generally suitable to support a few Koalas in the Port Stephens area (Eco Logical, 2013).
Fire Ecology	Following the 2019/2020 bushfires, a study was undertaken by Phillips (et al 2021) to determine the impacts on Koala populations. While noting that the impacts of bushfire on Koalas is poorly understood, Phillips (et al 2021) found that the median reduction in the occupancy rate of Koalas within Phillips' (et al 2021) study area was 71% when standardized against pre-fire occupancy levels. Phillips (et al 2021) also stated that "Koala survival was five times more likely in areas where forest canopies were modelled as Unburnt or Partially burnt, compared to areas where forest canopies were Fully burnt". Koala's home ranges are known to be altered as a result of fire, as demonstrated by observations of one individual Koala which was known to persist within a 2-ha home range after being forced out of its original home range due to fire (Eco Logical 2013). According to this information (i.e., typical home ranges of between 10 ha and 80 ha), the project footprint (containing a total area of 3,763.64 ha of suitable Koala habitat in the form of associated PCT's) has the potential to support a koala population ranging between 98 to 785 individuals. Koalas were not recorded within the project footprint despite targeted surveys. Some areas of potential suitable habitat within the project footprint were inaccessible for surveys, therefore the species has been assumed present. If Koala home ranges are altered this may lead to increased aggression between males during the breeding season (September- February) as they seek to determine their divisions of breeding females (DPIE 2020b). Other impacts include increased foraging pressure which may lead to a decrease in Koala habitat quality and increased interactions of Koala populations which may result in increased transmission of diseases such as chlamydia (DPIE 2020b). Given the Koala's breeding season, from September to February, the 2019/2020 bushfires could have impacted breeding success both directly and indirectly.
Impact of fires to MNES habitat in Subject land and locality	Approximately 2,491.63 ha of suitable Koala habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 518.75 ha (21%) of suitable Koala habitat within 15 PCT's was severely burnt by the 2019/20 fires. The majority of suitable habitat in the project footprint was severely burnt in the Inland Slopes IBRA Subregion (241.72 ha or 47%), followed by Snowy Mountains (168.21 ha or 32%) and Bondo (108.83 ha or 21%). In total, approximately 79% of all suitable Koala habitat (associated PCT's) recorded within the project footprint remains unburnt.

MNES	*Phascolarctos cinereus* (Koala)
	Between 10%-30% of the modelled likely or known distribution of the Koala is within the area burnt by the fires (DAWE 2020). The Koala is recognised as a national priority species because an estimated 10% or more of its AOO was burnt in the 2019/20 bushfires (DoEE 2020) and 12% of the modelled likely or known distribution of the Koala population in Queensland, NSW and the ACT (listed as Vulnerable) is within the fire extent (DEE 2020). Although the impact of the 2019/2020 bushfires on Koalas was far greater in South Australia and Victoria, in NSW an estimated 7,817 Koalas were impacted (WWF 2020). Todd & Maurer (2020) produced a report which focuses on Key Biodiversity Areas (KBAs) affected by the 2019/20 bushfires. KBAs are areas that are critical to maintaining biodiversity in Australia (IUCN 2016; Todd & Maurer 2020). The following KBAs are within 30 km of the project footprint: South-west Slopes and Australian Alps. South-west Slopes KBA covers over 2.5 million hectares. Of this, 243 hectares (<1%) was burnt in the 2019/20 fires. The Australian Alps KBA covers over 1.47 million hectares. Of this, 238,005 hectares (16%) was burnt in the 2019/20 fires. This indicates that the KBA's which are likely to contain high quality Koala habitat within 30 km of the project footprint were not significantly burnt in the 2019/20 bushfires.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint contains suitable Koala habitat (associated PCTs), including approximately 1,972.88 ha of unburnt suitable Koala habitat. The Koala has been listed as priority species requiring urgent management action. The assessment by DAWE (2020) states that for all priority species, protecting unburnt areas within or adjacent to recently burnt ground that provide refuges is essential. However, the 2019/2020 bushfires were concentrated on the far southern end of the project footprint (DPIE 2020f). There are 1,517 records of Koala within 20 km of project footprint (DPE 2022a). These records are predominantly at the northern end of the project footprint, with closest record approximately 6.5 km from the project footprint. Only one of these records (pre-2019/20 bushfire) were in severely burnt areas, indicating that areas predominantly inhabited by Koalas within 20 km of the project footprint were not severely burnt by the 2019/20 bushfires, therefore decreasing the potential need for any surviving Koala's to move into habitat in the project footprint. This is further evidenced by Koala survey data collected since the 2019/20 bushfires, which suggests that there has not been an increase in the population within the project footprint. A reduction in suitable Koala habitat surrounding the project footprint due to 2019/2020 bushfires may lead some surviving individuals to move into the project footprint, at least until there is extensive recovery of the canopy at burnt sites in the region and surrounds. The project footprint may experience a small increase in interactions and/or competition from surrounding Koala populations due to the proximity of smaller fires, however given the extent of unburnt habitat in proximity to the project footprint, there is unlikely to be a discernible increase in Koala numbers. Furthermore, it is unlikely that there would be an increase in interactions and competition within the project footprint from the regions most impacted by fires as Koalas have limited ability to flee during a fire event, are attached to place, and sub-adults have a dispersal distance of only 1-10 km (DAWE 2020). It can be assumed that the remaining Koala habitat found in the project footprint is not considered of more importance post fires.

MNES	*Phascolarctos cinereus* (Koala)
Is the population of the species in the area considered an important population post fires?	All remaining populations of Koala are considered to be an important population. There are no known populations of the species in the project footprint, however, project footprint contains suitable Koala habitat and there are 1,517 records of Koala within 20 km of project footprint and 8 of those that occurred within 5km (DPE 2022a). Therefore, given there was no Koala's found within the project footprint and the time that has passed since the fires it is reasonable to assume that the 2019-2020 bushfire would not have significantly impacted this species population of Koalas in the area and is unlikely to be an important population post fire.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.12 Smoky Mouse

Table A22- 24: Smoky Mouse bushfire impact assessment

MNES	*Pseudomys fumeus* (Smoky Mouse)
General	The Smoky Mouse is pale grey to blue-grey to black above, with a grey to white belly. The species has a head and body length of 85-100 mm and a tail length of 110-145 mm and weighs 45-86 g. In NSW, the Smoky Mouse has been recorded from Kosciuszko National Park, Bondo State Forest, Buccleugh State Forest, Ingbyra State Forest, Nullica State Forestand South-East Forests National Park. The Smoky Mouse appears to prefer heath habitat on ridge tops and slopes in sclerophyll forest, heathland, and open forest from the coast (in Victoria) to sub-alpine regions of up to 1800 metres, but sometimes occur in ferny gullies (TSSC 2020). This species faces many threats that may have been exacerbated as a result of the 2019/20 bushfires including, loss of habitat and foraging resources.
Fire Ecology	The Smoky Mouse can usually be safe underground in a burrow during a fire, but the post fire landscape can be harsh and result in population numbers declining rapidly (Hale *et al*, 2022). Inappropriate fire regimes are likely to simplify the heath understorey in dry forests; depleting floristic diversity and encouraging predators, which may result in the loss of Pseudomys species. However, Smoky Mouse have been noted within burnt areas 1-2 years post fire, suggesting that fire does not preclude them from an environment given time for vegetation regeneration. This is likely due to some habitat remaining after fires including rocks, logs and large trees that can be used for protection against predation (Hale *et al* 2022). Frequent burning and megafires can result in low abundance of hypogeal fungi, an important food resource, and can remove hollow logs, which are often used for protection (DSE 2006).
Impact of fires to MNES habitat in Subject land and locality	Approximately 386.10 ha of suitable Smoky Mouse habitat in the form of associated PCTs occurs in the project footprint. Of this, FESM data indicates that approximately 128.74 ha (33%) of suitable Smoky Mouse habitat within three associated PCTs (PCT 638, 953 and 1196) within the

MNES	*Pseudomys fumeus* (Smoky Mouse)
	Snowy Mountains IBRA Subregion was severely burnt by the 2019/20 fires. In total, approximately 67% of all suitable Smoky Mouse habitat (associated PCT's) recorded within the project footprint remained unburnt.
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint does contain suitable habitat for the Smoky Mouse in the form of alpine sedge and heath environment. The project footprint also contains associated PCTs, including 257.36 ha that was not severely burn. There are 37 records within 20 km of the project footprint, 28 in the Snowy Mountains IBRA Subregion, followed by 9 in Bondo. A reduction in suitable Smoky Mouse habitat surrounding the project footprint due to 2019/2020 bushfires may lead some surviving individuals to move into the project footprint, at least until there is extensive recovery of the canopy at burnt sites in the region and surrounds. The project footprint may experience a small increase in interactions and/or competition from surrounding Smoky Mouse populations due to the proximity of smaller fires, however the lack of Smoky Mouse records within 5 km of the footprint and this species ability to survive in situ after fires there is unlikely to be a discernible increase in Smoky Mouse numbers (Hale *et al* 2022). It can be assumed that the remaining Smoky Mouse habitat found in the project footprint is not considered of more importance post fires.
Is the population of the species in the area considered an important population post fires?	There are no known populations of the species in the project footprint. However, the project footprint contains suitable Smoky Mouse habitat and there are 37 records of Smoky Mouse within 20 km of project footprint (DPE 2022a). Given there are no known populations within the project footprint, and the likelihood of Smoky Mouse recolonisation elsewhere in the post fire landscape, it is unlikely that any individuals within the project footprint would be considered an important population.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.

3.13 Grey-headed Flying-fox

Table A22- 25: Grey-headed Flying-fox bushfire impact assessment

MNES	*Pteropus poliocephalus* (Grey-headed Flying-fox)
General	*Pteropus poliocephalus* (Grey-headed Flying-fox) is a generalist, nomadic species that occurs in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. It is the largest Australian bat, with a head and body length of 23 - 29 cm. It can be distinguished from other flying-foxes by the leg fur, which extends to the ankle. This species forms a single, extremely mobile, interbreeding population distributed over a vast area (DAWE 2021, Welbergen et al. 2020 cited in IUCN 2022). Grey-headed Flying-foxes are generally found within 200 km of the eastern coast of Australia, from Rockhampton in Queensland to Adelaide in South

MNES	*Pteropus poliocephalus* (Grey-headed Flying-fox)
	Australia. In times of natural resource shortages, they may be found in unusual locations (DPE 2022). Grey-headed Flying-fox roost camps are generally located within 20 km of a regular food source and fidelity to camps is high; some camps have been used for over a century (DPE 2022). The Grey-Headed Flying Fox was once considered abundant and estimated to number in the many millions in the early 20th century (Ratcliffe 1931 cited in IUCN 2022). However, distribution-wide autumn population counts between 1989 and 2005 of individuals at known camps across the species range, varied between 320,000 and 674,000 (mean of 450,714) (Woinarski et al. 2014 cited in IUCN 2022) and its current population trend is declining (IUCN 2022). This species faces many threats that may have been exacerbated as a result of the 2019/20 bushfires, including loss of roosting and foraging sites and heat stress (DPE 2022).
Fire Ecology	The response of Grey-headed flying fox roosts to wildfire are not well understood. In a recent study on the impacts of the 2019/2020 bushfires on Grey-headed flying fox, Baranowski (et al 2021) concluded that "the responses of both roosts and resources to fire severity need to be included in future work". Given the Grey-headed Flying-fox's breeding season, from March to April, the 2019/2020 bushfires could have impacted breeding success both directly and indirectly.
Impact of fires to MNES habitat in Subject land and locality	Approximately 1,339.92 ha of suitable Grey-headed Flying-fox habitat in the form of associated PCT's occurs in the project footprint. Of this, FESM data indicates that approximately 41.40 ha (3%) of suitable Grey-headed Flying-fox habitat within two associated PCTs (PCT 287 and 290) in the Inland Slopes IBRA Subregion was severely burnt by the 2019/20 fires. In total, approximately 97% of all suitable Grey-headed Flying-fox habitat (associated PCTs) recorded within the project footprint remains unburnt. During the spring and summer of 2019–2020, a sequence of circumstances associated with prolonged drought and extreme heat the species experienced an extended and intense food shortage across a broad area, resulting in a large but unquantified number of Grey-headed Flying-fox deaths, possibly in possibly tens of thousands (Mo et al. 2021), near reproductive failure and the burning of over a third of its habitat (Baranowski et al. 2021 cited in IUCN 2022). Pre-weaning reproduction at that time fell to 6% from a 21-year average of 74% (P. Eby unpublished data cited in IUCN 2022). In addition, in the summer of 2019–2020, 72,000 flying-foxes died from hyperthermia during eight separate extreme heat events throughout eastern and south-eastern Australia, with Grey-headed Flying-fox comprising the majority of the mortality estimate (Mo et al. 2021). The recorded deaths are likely substantial underestimates of the true mortality as many roosts are not inspected following events and where inspected mortality is often underreported (Mo et al. 2021, Welbergen, pers. comm. cited in IUCN 2022). The Grey-headed Flying-fox is on the provisional list of animals requiring urgent management intervention (DAWE 2020). The priority animals were identified based on the extent to which their range has potentially been burnt, how imperilled they were before the fires, and the physical,

MNES	*Pteropus poliocephalus* (Grey-headed Flying-fox)
	behavioural, and ecological traits which influence their vulnerability to fire. Most of the animals on this list have had at least 30% of their range burnt (DAWE 2020). Analysis undertaken by the Australian Government Department of the Environment and Energy found that 10 to <30% of the species modelled likely and known distribution in ACT, NSW, Qld, SA, Vic was within 2019/2020 fire affected areas (NSW) (DEE 2020).
Is the remaining habitat within the Subject land of substantially greater importance to the survival of the MNES following the fires?	The project footprint does not contain any Grey-headed Flying-fox roost camps, however it has been assumed present as the project footprint contains associated PCTs and suitable habitat, including approximately 1,298.52 ha that was not severely burnt. There are 74 records within 20 km of the site, with the closest record 0.5 km from the project footprint. None of these records (pre-2019/20 bushfire) were in areas that were severely burnt by the 2019/20 bushfires. This suggests that areas of known Grey-headed Flying-fox habitat within 20 km of the project footprint were not severely burnt and remain suitable habitat, decreasing the need for any surviving Grey-headed Flying-foxes to move into the project footprint. Given the extent and severity of the 2019/20 bushfires across NSW and the subsequent short-term and long-term significant impacts on the Grey-headed Flying-fox, it is likely that this highly mobile and nomadic species may have been more reliant on foraging habitat within the project footprint immediately following the fires, until there was substantial recovery of foraging resources in the region and surrounds. Many of the foraging habitats the Grey-headed Flying-fox favours are well adapted to fire, and active regeneration has been observed within the project footprint during survey efforts, with the increase in time post-bushfire. Considering this, the area within the project footprint is unlikely to be of significantly greater importance to the survival of the Grey-headed Flying-fox, as active regeneration has meant that areas that were unaffected by the fires are no longer as important.
Is the population of the species in the area considered an important population post fires?	Recent data provided by the BCD indicates the presence of eight camps within 37km of the project footprint. Three of these are within 9km of the project footprint in the Inland Slopes IBRA subregion, which was impacted by the 2019-2020 bushfires. Given the significant impact of the prolonged drought and extreme heat during the spring and summer of 2019–2020 had on this species, local populations of Grey-headed Flying-fox are likely to have been considerably impacted. However, severely burnt lands were observed to support substantial post-fire recovery and would be actively supporting foraging opportunities for these populations. This is likely to have occurred more broadly throughout the range of the species and as such, local populations are not considered to be of any more importance as a result of the 2019/20 bushfires.
Avoidance, mitigation and offset measures	Avoidance, mitigation and offset measures are addressed respectively in Chapters 11, 13 and 14 of the BDAR.