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Biodiversity Development Assessment Report v2

Tilbuster 2 Solar Farm

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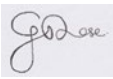
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Declarations

i. Certification under clause 6.15 *Biodiversity Conservation Act 2016*

I certify that this report has been prepared based on the requirements of, and information provided under, the Biodiversity Assessment Method and clause 6.15 of the *Biodiversity Conservation Act 2016* (BC Act).

Signature: 

Date: 13/11/2025

BAM Assessor Accreditation no: 18091

This BDAR has been prepared to meet the requirements of BAM 2020. Appendix A provides an assessment of compliance with the minimum information requirements outlined in BAM Appendix K.

ii. Details and experience of author/s and contributors

a. Authors and contributors

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Table of contents

Declarations	2
i. Certification under clause 6.15 <i>Biodiversity Conservation Act 2016</i>	2
ii. Details and experience of author/s and contributors	2
a. Authors and contributors	2
1. Introduction	12
1.1. Project background	12
1.2. Assessment context	12
1.3. Report terminology	13
1.4. Proposed development	13
2. Methods	16
2.1. Koala survey	16
2.2. Owl survey	17
2.3. Scattered Tree Assessment	17
2.4. Weather conditions	18
2.5. Limitations	20
3. Site context	22
4. Native vegetation, threatened ecological communities and vegetation integrity	23
4.1. Native vegetation extent	23
4.2. Plant community types	23
4.3. Threatened ecological communities	23
4.4. Vegetation zones	24
4.5. Vegetation integrity (condition)	24
4.6. Scattered trees	25
5. Habitat suitability for threatened species	28
5.1. Identification of threatened species for assessment	28
5.2. Ecosystem credit and species credit threatened species	28
5.2.1. Assessment of habitat suitability and habitat survey for candidate species credit species	28
5.2.2. Assessment of Koala habitat (food trees)	30
5.3. Threatened species surveys	30
5.4. Species polygons	34

5.4.1.	Masked Owl	34
5.4.2.	Southern Myotis	34
6.	Identifying prescribed impacts	40
7.	Avoid and minimise impacts.....	41
7.1.	Avoiding and minimising direct/indirect impacts on project location and design	41
7.1.1.	Initial project location and design	41
7.1.2.	Final modification – project location and design.....	41
7.2.	Avoid and minimise prescribed impacts.....	43
7.2.1.	Initial project location and worst-case scenario design	43
7.2.2.	Final modification – October 2025 project location and design	44
7.3.	Summary of measures to avoid and minimise impacts	46
8.	Impact assessment	47
8.1.	Direct impacts.....	47
8.1.1.	Residual direct impacts	47
8.1.2.	Changes in vegetation integrity scores.....	49
8.1.3.	Loss of hollow-bearing trees and feed trees	50
8.1.4.	Scattered trees	50
8.2.	Indirect impacts.....	51
8.3.	Prescribed impacts.....	51
8.3.1.	Impacts of development on habitat connectivity	51
8.4.	Mitigating residual impacts – management measures and implementation	52
8.4.1.	Implementation of management measures	54
9.	Serious and irreversible impacts (SAIL)	57
10.	Impact summary	62
10.1.	Determine an offset requirement for impacts	62
10.1.1.	Impacts on native vegetation and TECs or ECs (ecosystem credits)	62
10.1.2.	Scattered tree module.....	64
10.1.3.	Planted native vegetation.....	64
10.1.4.	Impacts on threatened species and their habitat (species credits)	64
10.1.5.	Offsets required under the EPBC Act	64
10.2.	Impacts that do not require further assessment.....	65
11.	Biodiversity credit report.....	67
11.1.	Ecosystem credits.....	67

11.2.	Ecosystem credits – scattered tree module	69
11.3.	Species credits	69
12.	Conclusion.....	70
13.	References	71

Figures

Figure 1-1	Tilbuster 2 Solar Farm proposal and subject land.....	14
Figure 1-2	Development footprint.....	15
Figure 2-1	Additional survey effort	21
Figure 4-1	Vegetation zones in the subject land.....	26
Figure 4-2	Scattered trees in the subject land.....	27
Figure 5-1	Masked Owl species polygon - method.....	37
Figure 5-2	Masked Owl species polygon.....	38
Figure 5-3	Southern Myotis species polygon.....	39
Figure 7-1	Areas of retained vegetation circled in thick red outlined would have been isolated due to proposed perimeter fencing (narrow red line) (CPHR, 2025).....	44
Figure 7-2	Avoided and regeneration areas.....	45
Figure 9-1	Entities at risk of SAIL in development footprint (BC Act Box Gum Woodland).....	61
Figure 10-1	Offset / assessment requirement in the development footprint	66
Figure 13-1	Masked Owl	C-I
Figure 13-2	Koala Feed Tree survey	C-I
Figure 13-3	Hollow-bearing tree - stag	C-I

Tables

Table 2-1 Environmental conditions during threatened species surveys.....	18
Table 4-1 TEC in the subject land.....	23
Table 4-2 Vegetation zones and vegetation integrity (VI) scores (taken from Table 5 BDAR v1)	24
Table 4-3 Scattered trees in the development footprint.....	25
Table 5-1 Amendment to BDAR v1 <i>Table 8 Excluded Species</i> for Beadle's Grevillea and Large-eared Pied Bat to clarify constraints	29
Table 5-2 Koala feed tree species and rank in subject land	30
Table 5-3 Updated threatened species surveys for certain candidate fauna species credit species on the subject land.....	31
Table 5-4 Species polygons for present species (recorded within the subject land).....	35
Table 7-1 Area of Box Gum Woodland TEC in development footprint and retained in subject land	42
Table 7-2 Impact areas for Box Gum Woodland TEC of initial proposal and revised proposal	42
Table 7-3 Proposed management (regeneration) area of avoided Box Gum Woodland (BGW).....	43
Table 7-4 Avoidance and minimisation measures for direct, indirect and prescribed impacts	46
Table 8-1 Residual direct impacts to biodiversity during the construction and operational phases	48
Table 8-2 Change in VI Score for each vegetation zone as a result of identified impacts	49
Table 8-3 Quantification of KFT loss by rank	50
Table 8-4 Quantification of scattered tree loss due to proposal.....	50
Table 8-5 Additional mitigation measures for impacts (based on Table 15 of the BDAR v1).....	53
Table 8-6 Summary of proposed mitigation and management measures for residual impacts.....	54
Table 9-1 Impact assessment provisions for the Box Gum Woodland TEC.....	57
Table 10-1 Impacts that do not require offsets - ecosystem credits	62
Table 10-2 Impacts that require an offset - ecosystem credits	63
Table 10-3 Scattered trees ecosystem credit requirement for trees belonging to PCT 3359	64
Table 10-4 Impacts that require an offset - species credits	64
Table 10-5 Impacts that do not need further assessment for ecosystem credits	65
Table 11-1 Ecosystem credit class and matching credit profile	67
Table 11-2 Scattered tree credit class and obligation	69
Table 11-3 Species credit class and matching credit profile.....	69
Table 13-1 Assessment of compliance with BDAR minimum information requirements.....	B-I
Table 13-2 Consultation Log - Conservation Programs, Heritage and Regulation, NSW DCCEEW (CPHR)...	F-I

Appendices

Appendix A Tilbuster 2 BDAR v1 (Ecosure 2024) A-I

Appendix B BDAR requirements compliance B-I

Appendix C Survey data C-I

Appendix D BAM calculator credit reports D-I

Appendix E Staff qualifications and experience E-I

Appendix F Agency/consent authority consultation F-I

Acronyms and abbreviations

ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i>
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ASL	Above sea level
AWS	Automatic weather station
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BAM C	BAM-Calculator
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
Biosecurity Act	<i>Biosecurity Act 2015 (NSW)</i>
BOM	Australian Bureau of Meteorology
CaLP Act	<i>Catchment and Land Protection Act 1994</i>
CE	Critically endangered
CEMP	Construction environmental management plan
CMA	Catchment management area
CPHR	Conservation Programs, Heritage and Regulation Group
CWD	Coarse woody debris
Cth	Commonwealth
CPB	Call play back survey
DAF	Department of Agriculture and Fisheries (Qld)
DAWE	Department of Agriculture, Water and the Environment (Cth) (formerly DoEE)
DBH	Diameter at breast height
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Cth) (formerly DAWE)
DCCEEW	Department of Climate Change, Energy, the Environment and Water (NSW) (formerly DPE)
DELWP	Department of Environment, Land, Water and Planning

DESI	Department of Environment, Science and Innovation (Qld)
DPE	(Former) Department of Planning and Environment (NSW) (now DCCEEW and DPHI)
DPHI	Department of Planning, Housing and Infrastructure (NSW) (formerly DPE)
DPIE	(Former) Department of Planning, Industry and Environment (NSW) (now DPE)
DR	Department of Resources (Qld)
DSDILGP	Department of State Development, Infrastructure, Local Government and Planning (Qld)
DSE	Department of Sustainability and Environment
DTATSIPCA	Department of Treaty, Aboriginal and Torres Strait Islander Partnerships, Communities and the Arts (Qld)
DTMR	Department of Transport and Main Roads (Qld)
E	Endangered
EEC	Endangered ecological community – as defined under relevant law applying to the proposal
EES	(Former) Environment, Energy and Science (NSW), Division of DPE
EIA	Environmental impact assessment
EIS	Environmental impact statement
EP Act	<i>Environmental Protection Act 1994</i> (Qld)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
ESD	Ecologically Sustainable Development
EVC	Ecological vegetation class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i> (Vic)
FM Act	<i>Fisheries Management Act 1994</i> (NSW)
GDA	Geographic Datum of Australia
GIS	Geographic information system
GPS	Geographical positioning system
ha	hectares

Heritage Act	<i>Heritage Act 1977 (NSW)</i>
ISEPP	State Environmental Planning Policy (Infrastructure) 2007 (NSW)
KFH	Key Fish Habitat
KFT	Koala Feed Tree
km	kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
LGA	Local government area
m	metres
MW	Megawatt
MNES	Matters of national environmental significance
NC Act	<i>Nature Conservation Act 1992</i>
NES	Matters of National Environmental Significance under the EPBC Act (c.f.)
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NV Act	<i>Native Vegetation Act 2003 (NSW)</i>
NVR	Native vegetation risk
OEH	(Former) Office of Environment and Heritage (NSW) (now EES)
PCT	Plant Community Type
P&E Act	<i>Planning and Environment Act 1987</i>
PMST	Protected matters search tool
PV	Photovoltaic
REF	Review of Environmental Factors
REP	Regional Environmental Plan (Vic)
SAII	Serious and Irreversible Impact
SAT	Spot Assessment Technique
Sp/spp	Species/multiple species
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened ecological community
The guidelines	Guidelines for the removal, destruction or lopping of native vegetation
VBA	Victorian biodiversity atlas

VIC	Victoria
VM Act	<i>Vegetation Management Act 1999</i>
VQA	Vegetation quality assessment
V	Vulnerable

Executive summary

Tilbuster 2 Solar Farm is a proposed State Significant Development near Armidale, NSW. The Biodiversity Development Assessment Report (BDAR) v1 was prepared by Ecosure and submitted to the Department of Planning, Housing and Infrastructure (DPHI) as an appendix of the Environmental Impact Statement (EIS) in mid 2025. The NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) – Conservation Programs, Heritage and Regulation branch (CPHR) provided comments on BDAR v1 in July 2025. This report, Tilbuster 2 Solar Farm BDAR v2, addresses CPHR's comments on behalf of EP Sunspot 5 Pty Ltd.

The key issues addressed in this BDAR v2 pertain to the Commonwealth and NSW listed Box Gum Woodland threatened ecological community, which is listed as critically endangered in both jurisdictions. The original proposal involved clearing 49.78 ha of NSW listed Box Gum Woodland, or around 40% of that occurring in the subject land. CPHR indicated the proposal had potential for a serious and irreversible impact upon the community locally. The proposal has now been redesigned and clearing has been reduced to 22.49 ha of BC Act Box Gum Woodland, or less than 20% of that occurring in the subject land. Clearing has been focused on areas of degraded derived native grassland and low condition woodland. Patches of higher condition woodland have been avoided. Patches of higher condition woodland have also been included as a regeneration area to protect and manage avoided Box Gum Woodland for the life of the project. The proponent would lease the regeneration area and be responsible for its management.

This BDAR v2 also addresses survey gaps where effort was below the required under Biodiversity Assessment Method guidelines. A new threatened species was recorded during the additional survey program: Masked Owl (*Tyto novaehollandiae*). A species polygon has been calculated and species credits generated.

The scattered tree module has been updated to more accurately reflect the loss of scattered trees across areas of non-native vegetation classed as Category 1 land.

In terms of credit generation for the project, the redesign of the project has led to (Table E1):

- A reduction in ecosystem credits generated due to clearing of native vegetation communities from 788 to 406
- A reduction in species credits generated for Southern Myotis (*Myotis macropus*) from 475 to 320
- An additional 182 species credits generated for Masked Owl
- An increase in scattered trees ecosystem credits generated from eight to 14.

Table E1 Comparison of credit generation between the proposal for BDAR v1 and BDAR v2

Type	BDAR v1	BDAR v2
Ecosystem credits		
Native plant communities	788	406
Scattered trees	8	14
Total ecosystem credits	796	420
Species credits		
Masked Owl	0	182

Type	BDAR v1	BDAR v2
Southern Myotis	475	320
Total species credits	475	502

In conclusion, the updated proposed assessed herein has a lower overall impact upon biodiversity due to avoidance and minimisation of Box Gum Woodland and threatened species habitat. An Ecological Restoration Plan and inclusion of the regeneration area in the proposal's lease arrangement with the land holder provides a mechanism for protection and management of avoided Box Gum Woodland TEC for the life of the project.

1. Introduction

1.1. Project background

EP Sunspot 5 Pty Ltd (the Applicant) is developing the Tilbuster Solar Farm 1 (SSD 9619), which was approved under Part 4, Division 4.7 of the EP&A Act on 3 March 2022. Design refinements made in response to ecological and heritage constraints identified during the preparation of the Environmental Impact Statement (EIS) meant the project was approved with a lower MW capacity than originally anticipated. As a result, the Applicant has acquired adjacent land and propose developing Stage 2 of the project to maximise the generation potential of the site (the proposal). The proposed extension is located on land adjoining the project and would make use of transmission, storage and construction facilities on the Tilbuster Stage 1 site. The proposal is located approximately 15 km north of Armidale in the Armidale Regional local government area (LGA).

The proposed Stage 2 of the Tilbuster Solar Farm is classified as a State Significant Development (SSD) under the *Environmental Planning and Assessment Act 1979* (EP&A Act) and as such a Biodiversity Development Assessment Report (BDAR) prepared under the *Biodiversity Conservation Act 2016* (BC Act) and entry into the Biodiversity Offset Scheme (BOS) is a requirement. The BOS applies to all SSD.

1.2. Assessment context

Tilbuster 2 Solar Farm Biodiversity Assessment Development Report ('BDAR v1') (Ecosure, 2024)¹ was finalised in November 2024 and submitted to the Department of Planning, Housing and Infrastructure (DPHI) as an appendix of the Environmental Impact Statement (EIS) in mid 2025. The NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) – Conservation Programs, Heritage and Regulation branch (CPHR) provided comments on BDAR v1 in July 2025.

This report, Tilbuster 2 Solar Farm BDAR v2, addresses CPHR's comments and provides an update on the impact assessment for the proposal on behalf of the Applicant. This BDAR v2 has been updated in accordance with the NSW Biodiversity Assessment Methodology 2020 (BAM) as required by the Secretary's Environmental Assessment Requirements (SEARs) for the proposal.

Due to capacity constraints, NGH were engaged to undertake the BDAR update. As the primary author was not available, the BDAR v2 supplements BDAR v1. BDAR v1 is provided as Appendix A of this document, and the documents need to be read in combination. Each section in BDAR v2 provides commentary on whether the section simply refers the reader back to the original assessment or whether it supplements or supersedes the original assessment. Rather than referencing every time text has been reproduced from the BDAR v1 (e.g. where required for context), this is provided in grey font colour.

¹ Ecosure (2024) *Tilbuster 2 Solar Farm Biodiversity Assessment Development Report*, November 2024 prepared for GHD. Referred to from here forwards as 'BDAR v1'. BDAR v1 is provided in Appendix A of this document.

1.3. Report terminology

The following terms are used in this document, consistent with the glossary section of BAM:

- a) **development footprint** – the area of land that is directly impacted by a proposed development, including access roads and areas used to store construction materials. Development footprint areas are used in the BAM Calculator (BAM-C) to generate ecosystem and species credits where relevant.
- b) **subject land** – the land proposed for development, activity, or clearing. In this case it is defined by the cadastral property boundary in which the development footprint sits. The Subject Land is the area where Stage 1 of the BAM has been applied, and vegetation surveys and targeted threatened species surveys have been undertaken. It is also assumed to be the area of indirect impact.
- c) **assessment area** – the assessment area includes the subject land plus the area of land within the 1500 m buffer zone surrounding the Subject land. The assessment area is used to consider landscape features and biodiversity values in the locality.

Additionally:

- d) **Category 1 land** – exempt land – native vegetation clearing is allowed without approval from Local Land Services, under Part 5A of the *Local Land Services Act 2013* (LLS Act). Biodiversity values within these areas are not assessed under the BAM (2020).
- e) **Category 2 land** – regulated land – authorisation may be required from Local Land Services for native vegetation clearing on rural zoned land, under Part 5A of the LLS Act. Biodiversity values within these areas are assessed under the BAM 2020 (DPIE, 2020a) for developments requiring assessment under the EP&A Act 1979.

1.4. Proposed development

The proposal is located on Lot 4 DP800611, off the New England Highway in the Armidale LGA in NSW. Section 1.3.3 (BDAR v1) provides more details on the location of the proposal. The proposal involves the construction, operation and decommissioning of a ground-mounted photovoltaic solar array (PV array). The subject land is approximately 246.4 ha in size, with the proposed development footprint an area of 105.95 ha. The development footprint includes the PV array area, laydown areas, internal roads, areas for vegetative screening (for visual impact), and buffers to the potential archaeological deposit (PAD), external perimeter fencing and a 10m Asset Protection Zone (APZ) which extends outwards from the perimeter fence. The proposal is shown in Figure 1-1 and the development footprint in Figure 1-2.

All construction and operational component within the subject land, including electrical reticulation, inverter/transformer locations, internal access/maintenance tracks and temporary construction areas, are captured in this development footprint. The use of Stage 1 Tilbuster infrastructure (e.g. access track) does not require additional clearing.

Figure 1-1 Subject land and proposal

Legend

 Subject land

Proposal elements

 Perimeter fence

 APZ

 Perimeter road

 Approved access road (Tilbuster 1)

 Laydown areas

 PV Arrays

 Landscape screening

Strahler

 1st Order Stream

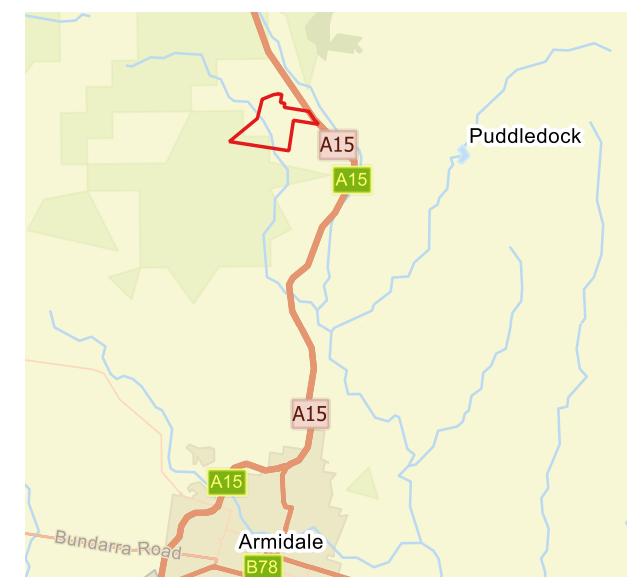
 2nd Order Stream

 3rd Order Stream

 4th Order Stream

 5th Order Stream

 >5th Order Stream



0 1 2 km



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Ref: 250639 Tilbuster SF Extra BDAR Owl Koala
Survey BDAR_250905 \ Figure 1-1 Subject Land
(Stage 1: Biodiversity Assessment)

Author: Bianca Heinze

Date created: 29.10.2025

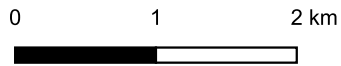
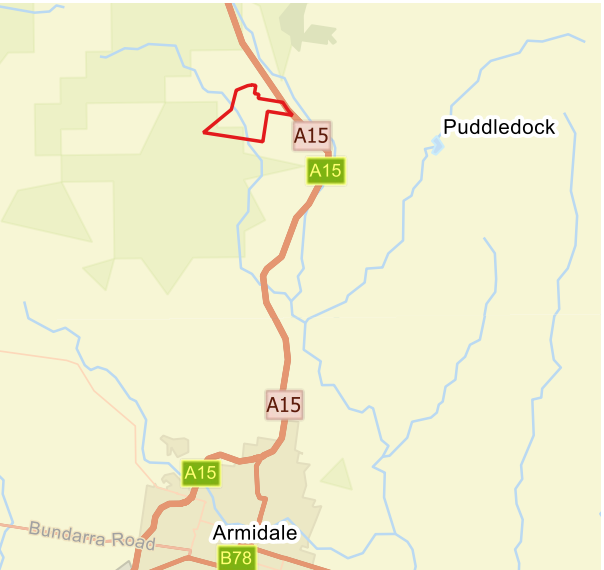
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Figure 1-2 Development footprint

Legend

- Subject land
- Development footprint
- Strahler waterways
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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Ref: 250639 Tilbuster SF Extra BDAR Owl Koala
Survey BDAR_250905 \ Figure 1-2 Development
Footprint

Author: Bianca Heinze
Date created: 29.10.2025
Datum: GDA 2020 z56

2. Methods

Survey method and effort undertaken for the original assessment is documented in Section 3 and 4 of BDAR v1 (Appendix A).

A follow-up fieldwork campaign was undertaken by NGH Ecologists Gabrielle Rose and Dominic De Lorenzo on 9th – 13th of September 2025 to supplement the survey effort of BDAR v1. The additional field surveys involved four different methods:

- Survey Koalas (*Phascolarctos cinereus*) and Koala feed trees
- Survey threatened owls
- Identify habitat for threatened species
- Complete Scattered Tree Assessments – Appendix B (DPIE, Biodiversity Assessment Method, 2020).

Data for these surveys was collected using handheld GIS smart devices.

2.1. Koala survey

The *Koala (Phascolarctos cinereus) Biodiversity Assessment Method Survey Guide* (DPE, 2022) was used to inform survey methods. Surveys included:

- Diurnal Koala (*Phascolarctos cinereus*) surveys including Spot Assessment Technique (SAT) and Koala feed tree count
- Nocturnal Koala (*Phascolarctos cinereus*) surveys spotlighting transects for Koala (*Phascolarctos cinereus*).

Feed Tree Count

The *Koala Habitat Information Base Technical Guide*, Appendix C (DPE, 2022) was referenced to quantify Koala trees in subject land. An estimate of all feed tree species were tallied and mapped using handheld GIS smart device.

Trees were ranked in accordance with Appendix C (DPE, 2022) regional ranking:

- Rank 1 = high preferred use (feed trees)
- Rank 2 = high use (feed trees)
- Rank 3 = significant use (feed or shelter trees)
- Rank 4 = irregular or low use (feed or shelter trees).

Spot Assessment Technique (SAT)

As outlined in BAM guidelines (DPE, 2022) ecologists selected survey locations using a 250m² grid, as subject land had suitable habitat >50 ha. Co-ordinates of SAT sites at the grid intersections were uploaded into GIS software for use in the field. The number of SAT surveys was determined by dividing the 99 hectares of suitable habitat by 6.25, resulting in a requirement for 16 survey sites. As 12 SATs had already been completed, an additional four sites were needed to ensure adequate survey coverage.

Orientated by the 'centre tree' of each site, two ecologists undertook radial searches of the 29 nearest trees for Koala scats at a rate of 2 minutes per tree. These searches were thorough and involved lifting or raking any grass, leaf litter or debris potentially obscuring the views of scats. GPS points of trees were recorded

with GPS enabled handheld smart devices, to record additional information required (i.e. species) for the Koala feed tree count. Locations of SAT sites were mapped and shown in Figure 2-1.

Spotlighting

Ecologist completed two 200m nocturnal spotlighting transects for each area of suitable habitat ≥ 5 ha. This amounted to seven 200m transects completed at a rate of 10m/min. As spotlighting was already completed in previous survey efforts, each transect was completed once. Each ecologist spotlighted with a powerful LED Lensor head-lamp (1000 lumen) and a hand-held Garmin GPS to record tracks. These tracks are displayed in fauna survey effort figure (Figure 2-1).

2.2. Owl survey

The NSW BioNet Threatened Biodiversity Database Collection (TBDC) guidelines (DCCEW, 2025) were used to guide survey method for threatened birds Powerful Owl (*Ninox strenua*), Barking Owl (*Ninox connivens*) and Masked Owl (*Tyto novaehollandiae*). The methods for additional field campaign for threatened fauna were conducted as follows:

- Call playback for Powerful Owl (*Ninox strenua*), Barking Owl (*Ninox connivens*) and Masked Owl (*Tyto novaehollandiae*).

Call playback (CPB) stations were pre-determined during the original BDAR v1 phase, selected using a 1000m² grid. Six non-consecutive nights of owl CPB surveys is advised by TBDC guidelines; therefore, an additional three nights were completed to meet the necessary survey effort.

Two ecologists undertook owl CPB surveys at three CPB stations. These were completed at an escalating sequence of Powerful Owl, Barking Owl and Masked Owl. Each sequence included 10 minutes of observation, 15 minutes of broadcast per owl species and 15 minutes of spotlighting trees within a 1 hectare circular plot around each broadcast station. A Bluetooth speaker was used to broadcasts each species' pre-recorded calls of a single male, single female, duet and for the masked owl, screech and chatter. This was played for no more than 15 seconds followed by at least 30 seconds of listening time. Ecologists listened for the response and watched for the appearance of the target owls during the listening time.

Weather conditions varied across all survey nights, with unfavourable wind speeds ranging between 22 and 43km/hr on 10 September resulting in the cancellation of owl surveys (BOM, 2025). As a result, the survey period was extended to 12 September to ensure adherence to survey guidelines.

2.3. Scattered Tree Assessment

Scattered trees in the subject land meet definition b. and c. in Appendix B of the BAM (DPIE, Biodiversity Assessment Method, 2020), being species listed in the tree growth form group that:

- have a DBH of greater than or equal to 5 cm and are located more than 50 m away from any living tree that is greater than or equal to 5 cm DBH, and the land between the scattered trees is comprised of vegetation that are all ground cover species on the widely cultivated native species list, or exotic species or human-made surfaces or bare ground, or
- are three or fewer trees that have a DBH of greater than or equal to 5 cm and are within a distance of 50 m of each other, that in turn, are greater than 50 m away from the nearest living tree that is greater than or equal to 5 cm DBH, and the land between the scattered trees is comprised of

vegetation that are all ground cover species on the widely cultivated native species list, or exotic species or human-made surfaces or bare ground

Three classes of scattered trees are defined in the BAM and were used to classify scattered trees in the subject land. The scattered tree classes are:

- Class 1: trees that are <20 cm DBH and without hollows
- Class 2: trees that are ≥20 cm DBH and less than the large tree benchmark for the most likely plant community type or trees that are <20 cm DBH that contain at least one hollow
- Class 3: trees that are greater than or equal to the large tree benchmark for the most likely plant community type.

All paddock trees were mapped in the field using a handheld GIS enabled smart device. All trees were identified to species level. The diameter at breast height (DBH) of the tree was measured and assigned a tree class relevant to the large tree benchmark of the most likely PCT. Each tree was visually assessed from the ground to determine whether any hollows were present.

2.4. Weather conditions

Survey conditions varied during the week with light to moderate winds in the early and later period, and high winds and steady rainfall leading to cancellation of night work on 10 September. Rain was also encountered on other survey days although this was light during survey work.

Table 2-1 Environmental conditions during threatened species surveys

Survey undertaken (e.g. method / targeted species)	Date	Time	Temperature (min. & max.)	Wind (light, mod...)	Rainfall (mm)	Other conditions relevant to the species
Koala SATs	09/09/2025	10:32-11:54 12:54-13:38	10.0 – 18.5	light	0	N/A
Nocturnal Koala Spotlighting Transects	09/09/2025	19:50-8:35 22:00-22:30	10.0 – 18.5	moderate	0	N/A
Nocturnal bird surveys – Powerful Owl (<i>Ninox strenua</i>), Barking Owl (<i>Ninox connivens</i>) and Masked Owl (<i>Tyto novaehollandiae</i>)	09/09/2025	Owl surveys completed between 17:45-00:30	10.0 – 18.5	moderate	0	N/A
Koala SATs	10/09/2025	10:41-11:50	7.3 – 15.5	moderate	0.6	N/A

Survey undertaken (e.g. method / targeted species)	Date	Time	Temperature (min. & max.)	Wind (light, mod...)	Rainfall (mm)	Other conditions relevant to the species
		14:54-15:59				
Nocturnal Koala Spotlighting Transects	10/09/2025	20:30-21:15	7.3 – 15.5	high	0.6	N/A
Nocturnal bird surveys – Powerful Owl (<i>Ninox strenua</i>), Barking Owl (<i>Ninox connivens</i>) and Masked Owl (<i>Tyto novaehollandiae</i>)	10/09/2025	CANCELLED	7.3 – 15.5	high	4.6	Cancelled due to unfavourable high wind.
Koala SATs	11/09/2025	10:41-11:54	4.1 – 9.1	moderate	0.6	N/A
Nocturnal Koala Spotlighting Transects	11/09/2025	23:20-23:35	4.1 – 9.1	light	0.6	One transect at 20 person minutes.
Nocturnal bird surveys – Powerful Owl (<i>Ninox strenua</i>), Barking Owl (<i>Ninox connivens</i>) and Masked Owl (<i>Tyto novaehollandiae</i>)	11/09/2025	Owl surveys completed between 18:15-23:15	4.1 – 9.1	light	17	N/A
Nocturnal bird surveys – Powerful Owl (<i>Ninox strenua</i>), Barking Owl (<i>Ninox connivens</i>) and Masked Owl (<i>Tyto novaehollandiae</i>)	12/09/2025	Owl surveys completed between 18:15-20:15 20:30-21:40 10:00-23:20	4.1 – 9.1	light	0.4	N/A

2.5. Limitations

All vegetation and threatened fauna survey methods, effort and timing have been met in accordance with the guidelines (DCCEW, 2025; DPE, 2022; DPIE, Biodiversity Assessment Method, 2020).

Criteria for weather conditions were met for all surveys. Moderate-strong wind conditions (22-43km/hr) during 10 September were not suitable to undertake reliable owl CPB surveys however surveyors were able to complete two koala spotlight transects within a small patch of open woodland. This is acceptable and survey results considered to be reliable due to open terrain with 360° visual access to individual trees as well as the sedentary nature of target species. Justification is also evidenced by positive eyeshine detection within canopy foliage of non-target sugar glider during this spotlighting transect. The survey period was extended by one night to make up for the cancellation on 10 September.

Although sufficient survey methods and effort were undertaken to identify all hollow-bearing trees within the subject land, it is possible that some hollows in the canopy of large trees may not have been detected. Ground surveys for HBTs are inherently limited as physical inspections of hollows are not conducted internally. Research shows that rapid ground surveys are likely to underestimate hollow frequency compared to climbing surveys (Harper, McCarthy, van der Ree, & Fox, 2004). However, this research also confirmed that ground surveys do provide an efficient and relatively reliable method for assessing hollow abundance (Harper, McCarthy, van der Ree, & Fox, 2004).

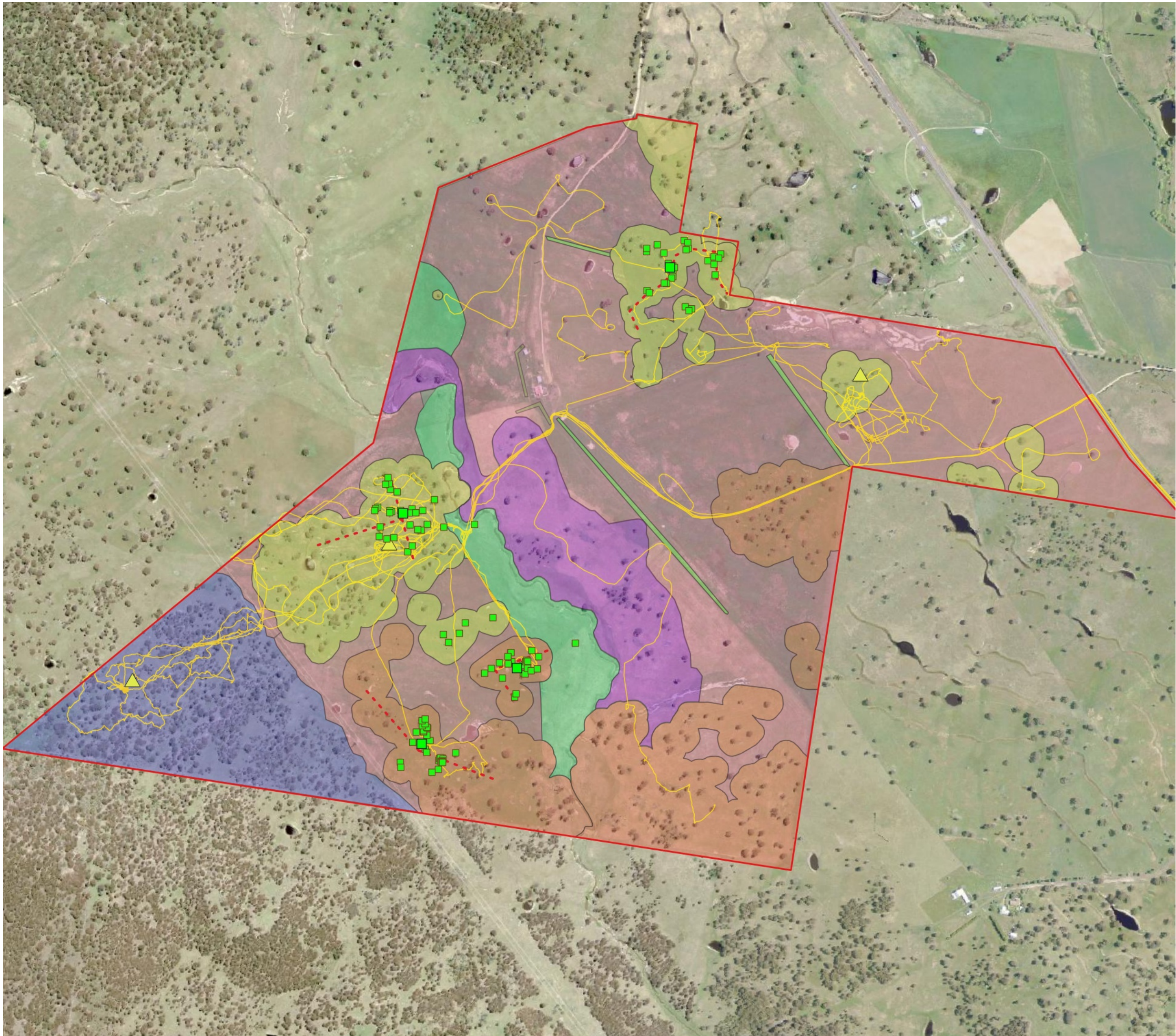
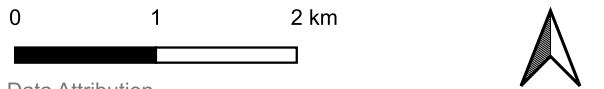
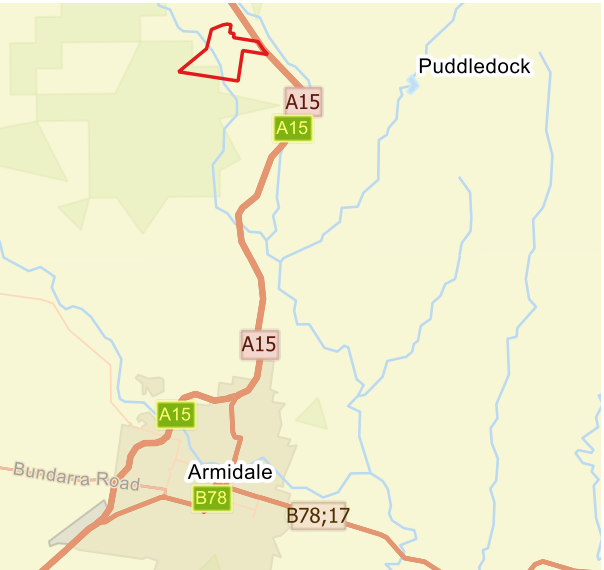


Figure 2-1 Survey Effort

- Legend
- Owl call playback stations
 - Koala SAT- Centre tree
 - Koala SAT - additional trees
 - Koala spotlight tracks
 - Survey tracks - general
 - Subject land
- Vegetation zones
- Zone 1
 - Zone 2
 - Zone 3
 - Zone 4
 - Zone 5
 - Zone 7
 - Zone 8



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Date created: 11.11.2025
Datum: GDA 2020 Zone 56

3. Site context

Site context details remain unchanged from BDAR v1. Please refer to Section 2 of BDAR v1, Appendix A of this document.

4. Native vegetation, threatened ecological communities and vegetation integrity

4.1. Native vegetation extent

Native vegetation extent is assessed in section 3.3 BDAR v1.

4.2. Plant community types

Table 4 of BDAR v1 provides details of Plant Community Types (PCTs) recorded in the development footprint, which are listed below:

- PCT 3359 New England Hills Stringybark-Box Woodland
- PCT 3352 Armidale Quartz Hills Stringybark Forest.

Please refer to BDAR v1 for details.

4.3. Threatened ecological communities

NGH identified inconsistencies between the BDAR v1 spatial attribute data received and information in the BDAR v1 report including Figure 7, Table 7 and Figure 9 regarding vegetation zone descriptions, and correlation to Threatened Ecological Communities (TEC). The spatial data was clarified by NGH based on Figure 7 in BDAR v1 and text in Section 3.5 thus Table 4-1 below replaces Table 7 in BDAR v1.

Table 4-1 TEC in the subject land

Associated TEC common name and status	Corresponding vegetation zone(s)	Corresponding plots	Total area in subject land
<i>White Box - Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions</i> (BC Act Box Gum Woodland) BC Act: Critically Endangered	Zones 1-4	Plots 1, 2, 3, 5, 6, 8, 9, 10, 11	116.53 ha
<i>White Box-Yellow Box- Blakely's Red Gum Grassy Woodland and</i>	Zone 1 (partial), Zone 4	Plots 5, 8, 15, 16	38.73 ha

Associated TEC common name and status	Corresponding vegetation zone(s)	Corresponding plots	Total area in subject land
Derived Native Grassland (EPBC Act Box Gum Woodland) EPBC Act: Critically Endangered			

4.4. Vegetation zones

The BDAR v1 identifies seven vegetation zones in Section 3.4.4; this section supersedes the listed vegetation zones to six as follows (Figure 4-1):

- Zone 1 – PCT 3359 open woodland degraded (VZ1_3359_WLdeg)
- Zone 2 – PCT 3359 open woodland cultivated (VZ2_3359_WLcul)
- Zone 3 – PCT 3359 derived native grassland degraded (VZ3_3359_DNG)
- Zone 4 – PCT 3359 woodland good (VZ4_3359_WLgood)
- Zone 5 – PCT 3352 open woodland degraded (VZ5_3352_WLdeg)
- Zone 7 – planted native vegetation.

Zone 6 – scattered trees has not been carried into this BDAR v2. BDAR v1 spatial data included a polygon around each scattered tree based on canopy width which was subtracted from the Category 1 area. The scattered trees in the subject land meet definitions a. and b. in the BAM, being trees over exotic or widely cultivated native ground cover. NGH have therefore removed zone 6, and display scattered trees as a point layer directly over the Category 1 areas (refer to Section 4.6, Figure 4-2).

4.5. Vegetation integrity (condition)

Table 4 BDAR v1 lists the number of plots sampled for each vegetation zone. Attribute and VI scores for vegetation zones are given in Table 4-2 below. Zone 4 VI scores were not calculated / provided in BDAR v1 as it is not in the development footprint.

Table 4-2 Vegetation zones and vegetation integrity (VI) scores (taken from Table 5 BDAR v1)

Zone	Area in Subject Land (ha)	Composition score	Structure score	Function score	VI score
1 VZ1_3359_WLdeg	20.83	17.8	25.2	39	25.9
2 VZ2_3359_WLcul	23.29	7.6	7.9	66	15.8
3	5.67	7.8	50.5	0	7.3

Zone	Area in Subject Land (ha)	Composition score	Structure score	Function score	VI score
VZ3_3359_DNG					
5 VZ5_3352_WLdeg	13.87	17.4	52.2	35	31.7

4.6. Scattered trees

This Section is addendum to Section 3.4.4 of the BDAR v1 and replaces Table 6: Tree data for all impacted scattered native trees. Scattered trees recorded within the development footprint are summarised in Table 4-3. Coordinates are provided in metres using GDA2020/MGA Zone 56 (EPSG:7856) for spatial accuracy and alignment with current datasets.

Table 4-3 Scattered trees in the development footprint

Tree ID	Easting	Northing	Species	DBH (cm)	Hollow Bearing	PCT
34	371975.32	6638355.06	<i>Eucalyptus blakelyi</i>	20	No	3359
25	371854.31	6638149.06	<i>Eucalyptus blakelyi</i>	45	No	3359
13	372495.69	6637848.39	<i>Eucalyptus blakelyi</i>	60	No	3359
42	372778.27	6637635.31	<i>Eucalyptus blakelyi</i>	73	No	3359
39	371927.23	6638115.63	<i>Eucalyptus blakelyi</i>	85	No	3359
44	372409.88	6637138.75	<i>Eucalyptus blakelyi</i>	85	No	3359
11	372858.26	6637690.17	<i>Eucalyptus blakelyi</i>	95	No	3359
9	372901.58	6637652.13	<i>Eucalyptus blakelyi</i>	65	Yes	3359
27	371884.33	6638100.50	<i>Eucalyptus bridgesiana</i>	45	No	3359
33	371999.76	6638276.32	<i>Eucalyptus bridgesiana</i>	170	Yes	3359
43	372769.63	6637634.79	<i>Eucalyptus melliodora</i>	45	No	3359
40	371870.84	6637895.80	<i>Eucalyptus melliodora</i>	50	No	3359
22	371831.86	6638211.94	<i>Eucalyptus melliodora</i>	60	No	3359
23	371826.30	6638208.60	<i>Eucalyptus melliodora</i>	65	No	3359
24	371809.81	6638210.37	<i>Eucalyptus melliodora</i>	65	No	3359
2	373327.62	6637598.98	<i>Eucalyptus melliodora</i>	70	No	3359
4	373087.85	6637730.81	<i>Eucalyptus melliodora</i>	70	No	3359
37	371790.37	6638256.42	<i>Eucalyptus melliodora</i>	85	No	3359

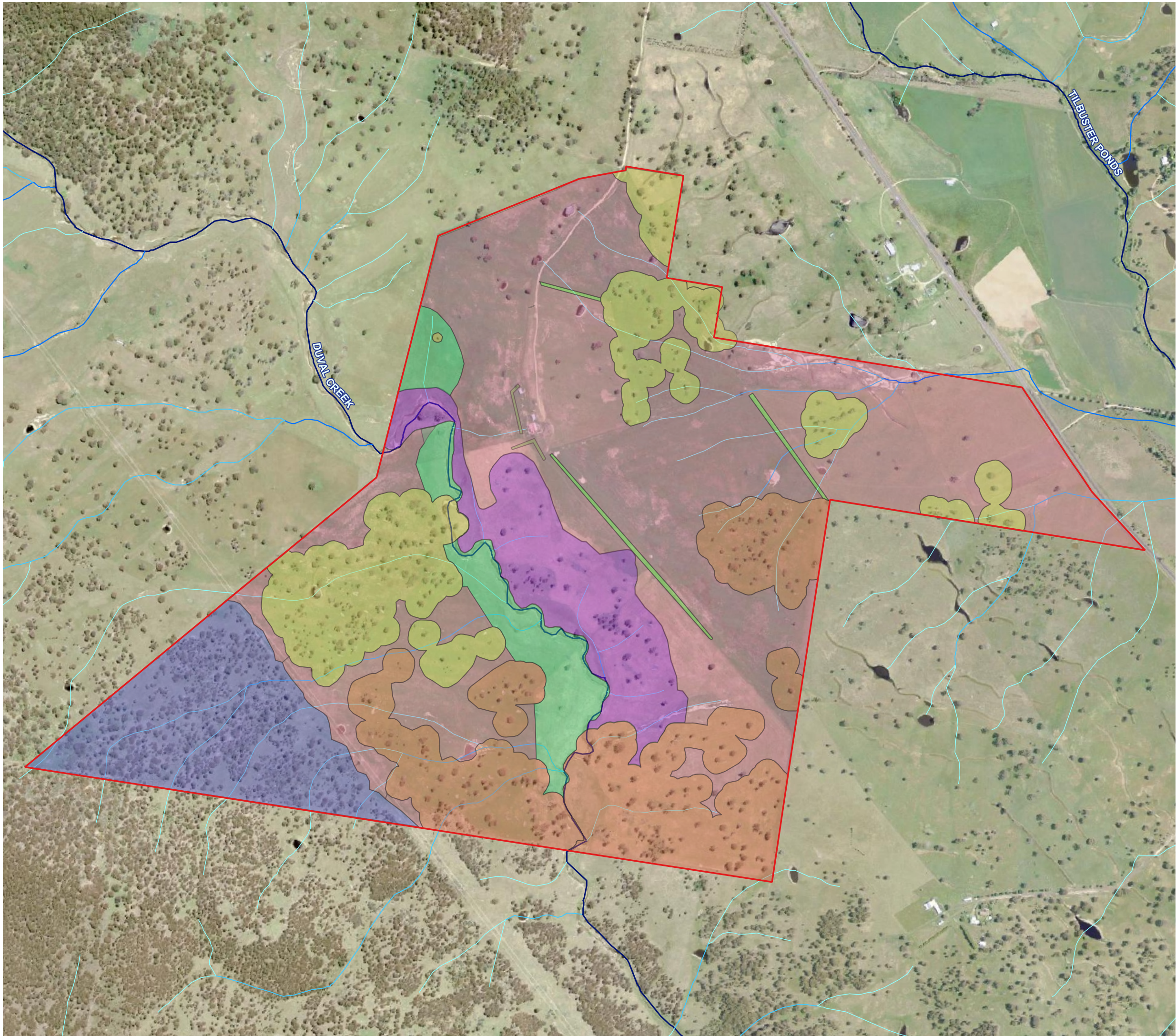
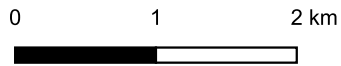
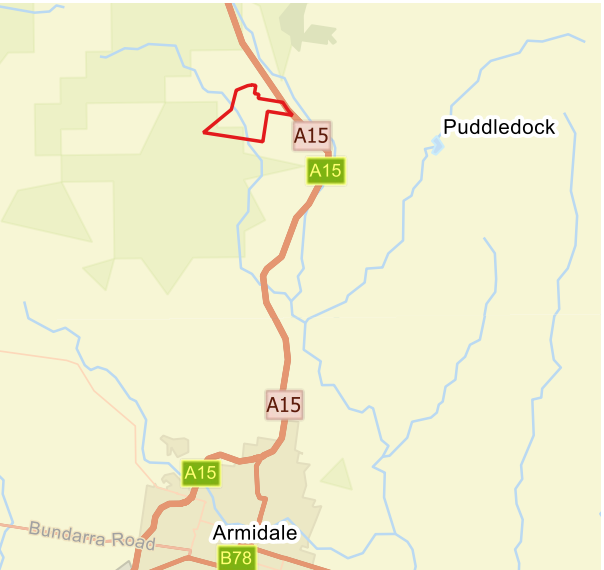


Figure 4-1 Vegetation zones

Legend

- Subject land
- Strahler waterways
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream
- Vegetation zones
 - Zone 1
 - Zone 2
 - Zone 3
 - Zone 4
 - Zone 5
 - Zone 7
 - Category 1 land



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 zones

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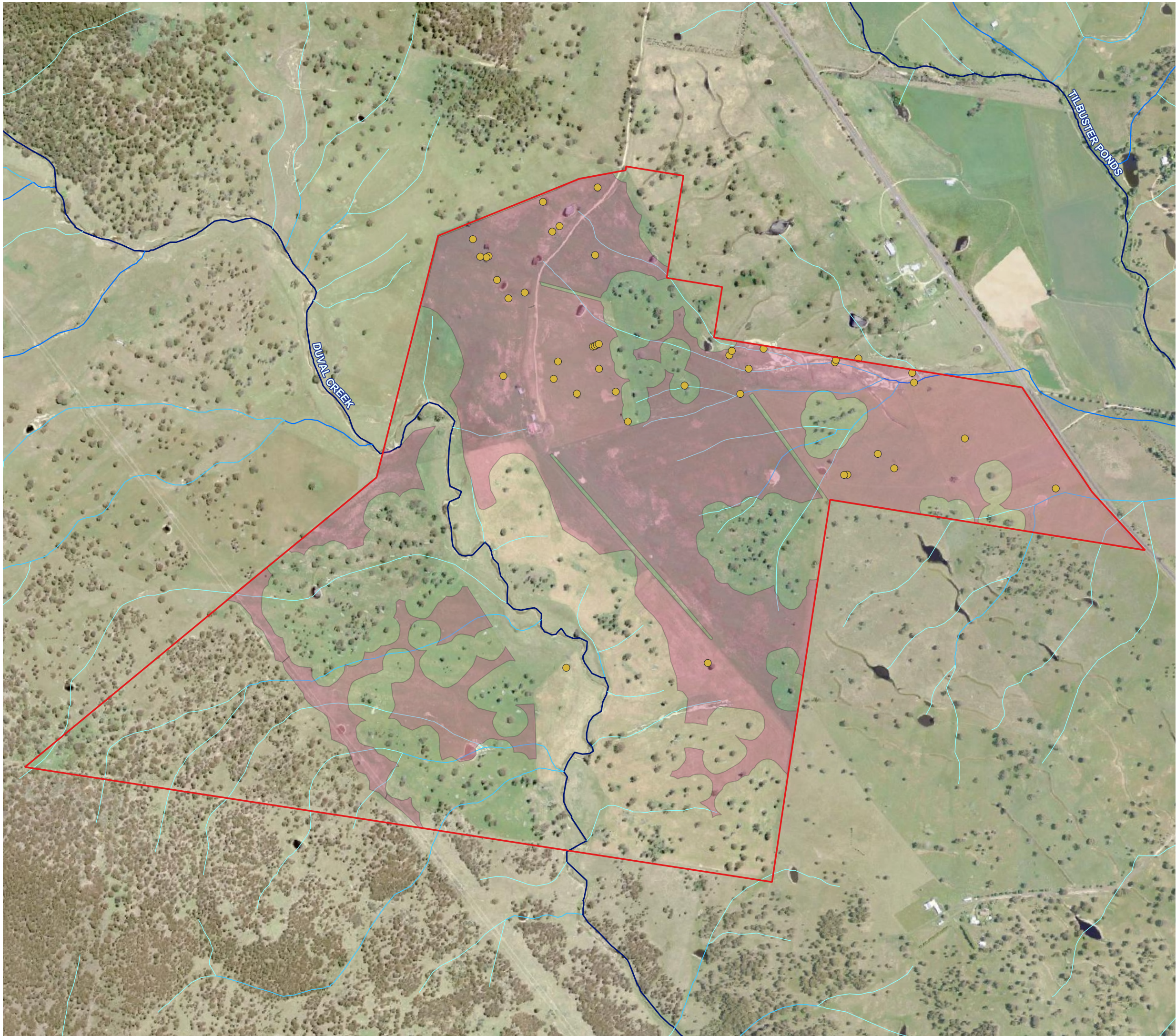
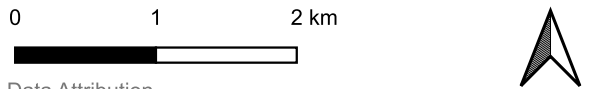
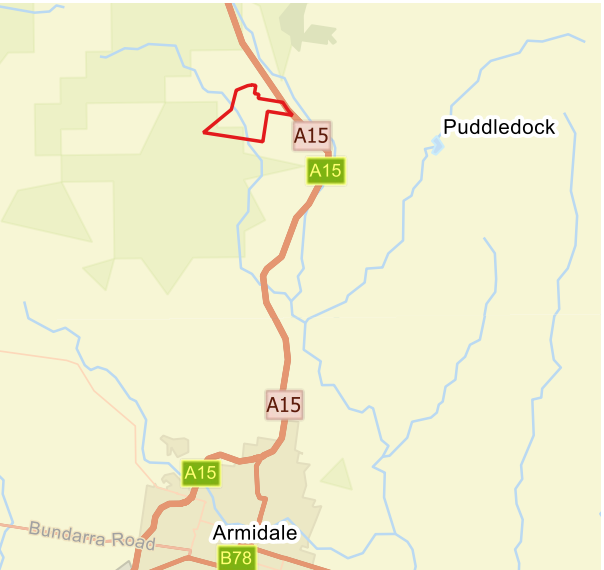


Figure 4-2 Scattered trees

Legend

- Subject land
- Scattered trees
- Strahler waterways
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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Author: Bianca Heinze
Date created: 31.10.2025
Datum: GDA 2020 z56

5. Habitat suitability for threatened species

5.1. Identification of threatened species for assessment

The BAM calculator generated 26 ecosystem credit (predicted) threatened species and 30 species credit (candidate) threatened species. Refer to Section 4 BDAR v1 for details on habitat suitability and additional threatened species considered.

5.2. Ecosystem credit and species credit threatened species

This section builds on BDAR v1 Section 4.1 and addresses CPHR comments 5 and 6 regarding *Grevillea beadleana*, Large-eared Pied Bat and Koala.

5.2.1. Assessment of habitat suitability and habitat survey for candidate species credit species

Table 5-1 provides updates to BDARv1 Table 8 to clarify geographic and habitat constraints for Beadle's Grevillea (*Grevillea beadleana*) and Large-eared Pied Bat (*Chalinolobus dwyeri*). The subject land is outside the listed geographic limits for Beadle's Grevillea (within 10km buffer from Oxley Wild Rivers National Park). The subject land does not contain the required habitat (based on descriptions in BAM-C and TBDC) for either species.

Table 5-1 Amendment to BDAR v1 Table 8 Excluded Species for Beadle's Grevillea and Large-eared Pied Bat to clarify constraints

Common name	Scientific name	BC Act	EPBC Act	Credit type	Habitat/ geographic constraint (BAM C)	Reason for exclusion from further assessment
Beadle's Grevillea	<i>Grevillea beadleana</i>	E	E	Species	Geographic: Oxley Wild Rivers National Park or within 10km buffer. Habitat: Cliffs or within 200m of escarpments or rocky areas or within 200m.	Site is outside geographic limits of known occurrences and does not contain the granite environment. There are no Bionet Atlas records within 5 km of the site, the closest record is over 30 km south in Oxley Wild Rivers National Park.
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	E	-	Species	Geographic: n/a Habitat: Cliffs, or within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Site does not provide habitat constraint for this species. There are no cliffs, caves or rocky areas within 2km of the subject land.

5.2.2. Assessment of Koala habitat (food trees)

This section provides information in direct response to a comment from CPHR regarding quantification of Koala Feed Trees (KFT). Tree species recorded on site all correspond with KFT as listed in the guide (DPE, 2022). Table 5-2 shows feed tree species by rank. KFT counts recorded approximately 376 Rank 1 and 2 trees in the subject land (excluding the western woodland area). This includes around 40 trees not recorded to species level during fieldwork (allocated to 'unknown' species) but visible on the aerial imagery. These trees are assumed to be a species already sampled in the proposal area and therefore being a Rank 1 or 2 KFT.

Table 5-2 Koala feed tree species and rank in subject land

Feed tree rank	Rank 1	Rank 2
Species	<i>Eucalyptus blakelyi</i> <i>E. melliodora</i>	<i>E. bridgesiana</i> <i>E.nova-anglica</i> <i>E.calignosa</i>

5.3. Threatened species surveys

This section is an addendum to Section 4.3 in BDAR v1, updating survey effort for Koala, Barking Owl, Masked Owl and Powerful Owl. Original survey information for these species has been copied across from BDAR v1, and transferred into the table format as per the DCCEE BDAR template. In Table 5-3, original survey effort is provided in grey text and supplementary surveys undertaken by NGH is shown in black text. Survey results (additional to threatened species discussed in this section) are given in Appendix C. Survey effort is shown in Figure 2-1.

Table 5-3 Updated threatened species surveys for certain candidate fauna species credit species on the subject land

Common name	Scientific name	Threatened fauna species surveys			Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
		Survey method (e.g. harp trap, Elliott trap, bioacoustics, etc.)	Timing of survey – within recommended period? (BAM-C / TBDC)	Effort (hours & no. people)		
Fauna						
Koala	<i>Phascolarctos cinereus</i>	Spotlighting SAT surveys Passive bio-acoustic detection	☒ Yes Spotlighting - 26 - 28 August 2023, 17 – 18 December 2023, 09 – 11 September 2025 SATs - 27 - 28th August 2023, 17 – 19th December 2023,	☐ No <		

Common name	Scientific name	Threatened fauna species surveys			Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
		Survey method (e.g. harp trap, Elliott trap, bioacoustics, etc.)	Timing of survey – within recommended period? (BAM-C / TBDC)			
			09 – 11 September 2025 Passive bio-acoustic detection - 17th December 2023 – 22nd January 2024		SATs – 4 person hours 2mins/tree x 30 trees x 4 SATs = 240mins or 4 person hours	
Barking Owl	<i>Ninox connivens</i>	Nocturnal call playback	☒ Yes 26th - 28th August 2023, 09 - 12 August 2025	☐ No	4.5 hours, 3.5 hours per species 70mins CPB per night x 3 nights = 210mins or 3.5 hours	No
Masked Owl	<i>Tyto novaehollandiae</i>	Nocturnal call playback	☒ Yes 26th - 28th August 2023,	☐ No	4.5 hours, 3.5 hours per species	Yes 5.2.5 – create species polygon to determine

Common name	Scientific name	Threatened fauna species surveys				Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
		Survey method (e.g. harp trap, Elliott trap, bioacoustics, etc.)	Timing of survey – within recommended period? (BAM-C / TBDC)		Effort (hours & no. people)		
			09 - 12 September 2025		70mins CPB per night x 3 nights = 210mins or 3.5 hours		the location of suitable habitat for species credit species 5.2.6 – determine habitat condition in species polygon
Powerful Owl	<i>Ninox strenua</i>	Nocturnal call playback	☒ Yes 26th - 28th August 2023, 09 - 12 September 2025	☐ No	4.5 hours, 3.5 hours per species 70mins CPB per night x 3 nights = 210mins or 3.5 hours	No	No

5.4. Species polygons

This section adds to Section 4.4 of BDAR v1 and supersedes information regarding Southern Myotis and Masked Owl.

5.4.1. Masked Owl

One Masked Owl individual was recorded during September 12, 2025, within Zone 4. The detection was initially recorded via audio acoustic recognition during call playback and further confirmed visually when the individual was attracted to the call playback site and settled in an adjacent tree. The individual remained within close viewing distance for approximately 20 minutes and the record is confident and definite.

The species polygon has been drawn based on directions in the TBDC, which were also clarified with the BOS Helpdesk (refer to Appendix F). The species polygon includes all vegetations zones that meet both the following criteria:

1. Within 800m of the location of a detected owl, and
2. Contain a living or dead tree with a hollow greater than 20cm entrance diameter that occurs more than 4m above the ground.

If a vegetation zone that contains the required habitat feature partially intersects the 800m buffer, then the entire vegetation zone should be included in the polygon. Vegetation zones entirely outside the 800m buffer are not included, even if they contain suitable hollow-bearing trees (Figure 5-1).

The 800m buffer was created with the visual record as the centre point as this was closer to the development footprint than the initial aural record (further west). The buffer intersects vegetation zones 1 and 2 along with Category 1 land. Both zones have hollows meeting the above requisites. Therefore, all of vegetation zones 1 and 2 have been used to calculate the species polygon for Masked Owl. Species polygon details are provided in Table 5-4 and Figure 5-2.

5.4.2. Southern Myotis

Southern Myotis has been assumed present given that the species was recorded adjacent to the subject land, during the Tilbuster 1 BAM surveys (NGH, 2021) and the continuation of habitat (PCT 3352 and 3359) onto the Tilbuster 2 site. Species polygon details are provided in Table 5-4 and are derived using the methodology within '*Species credit' threatened bats and their habitats – NSW survey guide for the Biodiversity Assessment Method* (DPIE, 2018).

To create the species polygon, permanent waterways and dams in the subject land were buffered by 200m. All native vegetation zones (the species being associated with both PCTs on site) that intersected with the 200m buffer were selected and then clipped by the development footprint to calculate the species polygon (Figure 5-3).

Table 5-4 Species polygons for present species (recorded within the subject land)

Common name	Scientific name	Biodiversity risk weighting (BAM-C & TBDC*)	SAIL entity** (BAM-C & TBDC)	Habitat constraints / microhabitats present on the subject land / vegetation zone	Abundance – No. individual plants present on subject land (flora)	Extent (ha) of suitable habitat present on site	TBDC species specific recommendations e.g. buffers, general comments	Habitat condition (vegetation integrity score)
Masked Owl (breeding)	<i>Tyto novaehollandiae</i>	High (2)	No	>20 cm diameter hollows minimum 4 m above ground level.	n/a	18.99 ha	TBDC - all vegetation zones that: 1. are within 800 m from the location of a detected owl, and 2. containing a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground. The location of the detected owl should be determined by estimating the distance and direction of the call.	Zone 1: 25.9 Zone 2: 15.8

Common name	Scientific name	Biodiversity risk weighting (BAM-C & TBDC*)	SAIL entity** (BAM-C & TBDC)	Habitat constraints / microhabitats present on the subject land / vegetation zone	Abundance – No. individual plants present on subject land (flora)	Extent (ha) of suitable habitat present on site	TBDC species specific recommendations e.g. buffers, general comments	Habitat condition (vegetation integrity score)
Southern Myotis	<i>Myotis macropus</i>	High (2)	No	Waterbodies with permanent pools/stretchers 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.	n/a	28.89 ha (assumed presence)	(DPIE, 2018) – all associated vegetation zones within a 200m buffer around waterways.	Zone 1: 25.9 Zone 2: 15.8 Zone 3: 7.3 Zone 5: 31.7

* There may be occasions when the TBDC has been updated with new listings or new information for a listed species that is not yet reflected in BAM-C. At all times, the data in the BAM-C is to be used in an assessment and is considered correct; however, the TBDC could provide more up to date data/information that should be considered as part of the assessment.

** A list of SAIL entities is also available on the department's website.

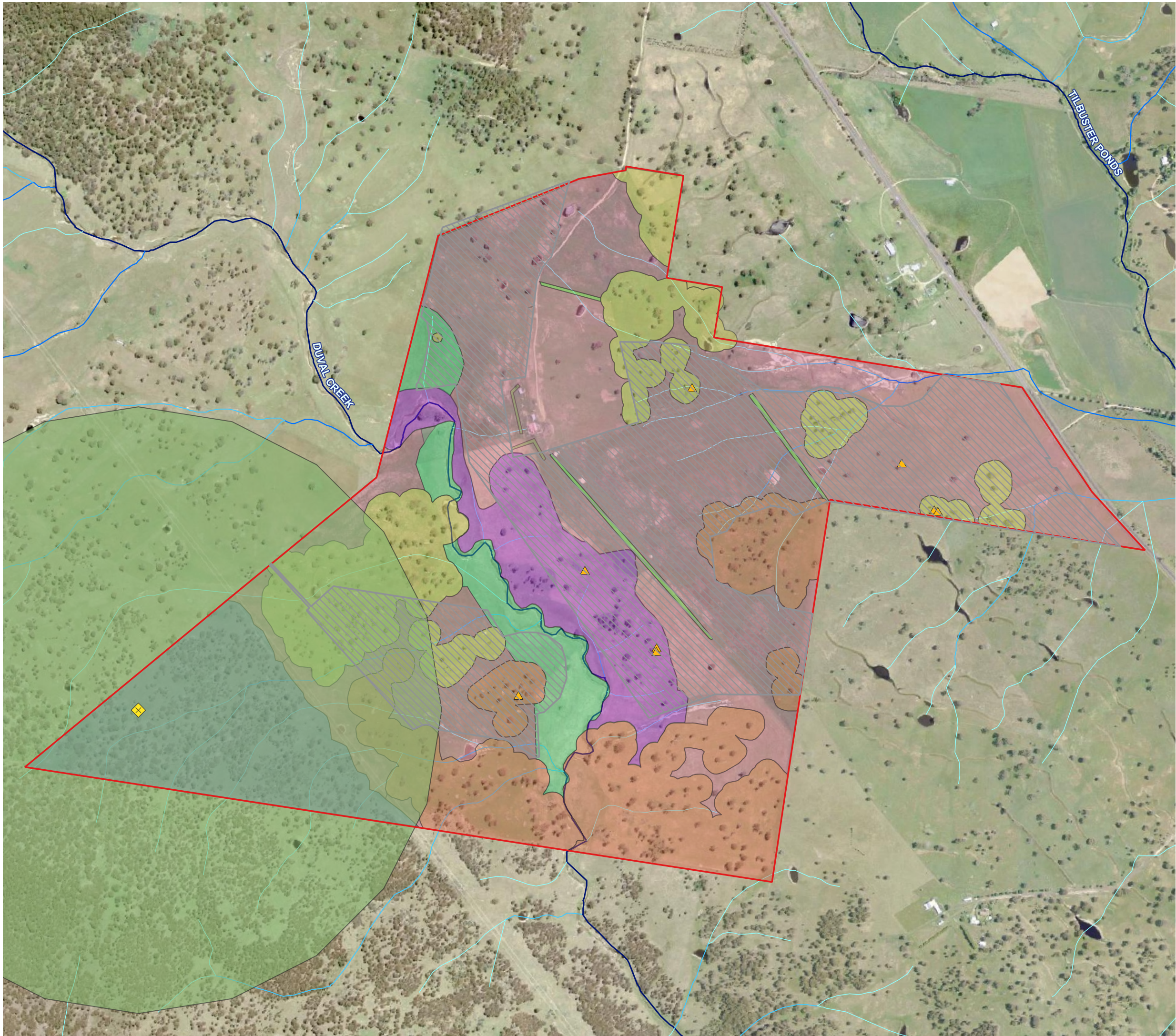
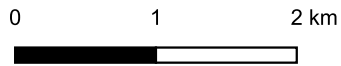
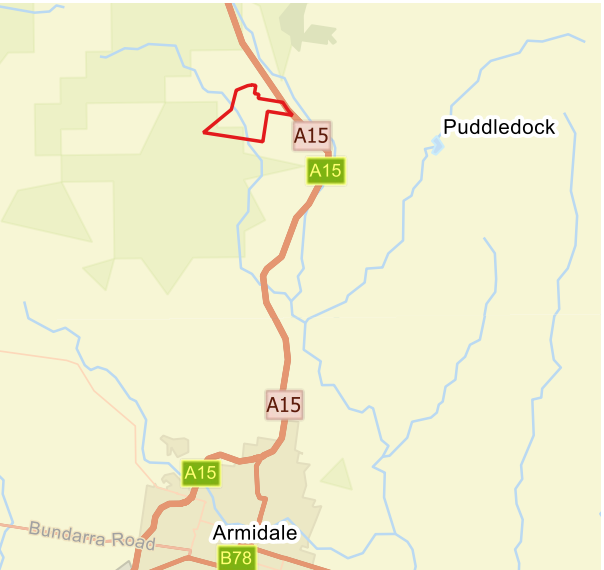


Figure 5-1 Masked Owl species polygon - method

Legend

- Masked Owl record
- Large HBT (>20cm entrance diameter)
- Vegetation zones**
 - Zone 1
 - Zone 2
 - Zone 3
 - Zone 4
 - Zone 5
 - Zone 7
 - Category 1 land
 - 800m buffer on Masked Owl record
- Subject land
- Development footprint
- Strahler waterways**
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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method

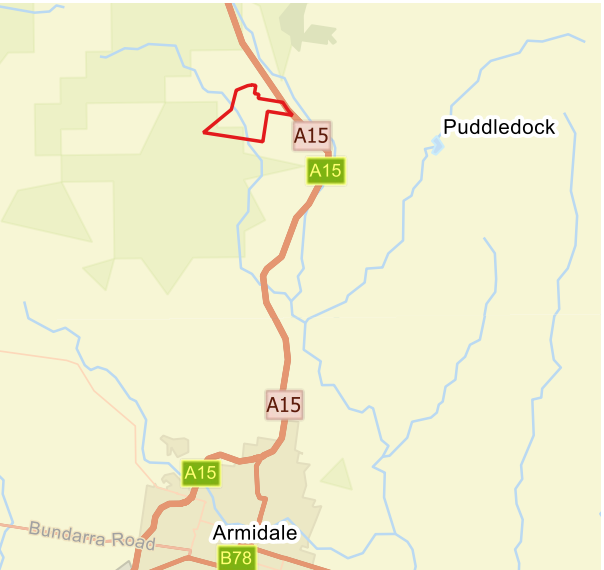
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Date created: 31.10.2025
Datum: GDA 2020 z56



Figure 5-2 Masked Owl species polygon

Legend

- Masked Owl record
- 800m buffer on Masked Owl record
- Masked Owl species polygon
- Subject land
- Development footprint
- Strahler waterways
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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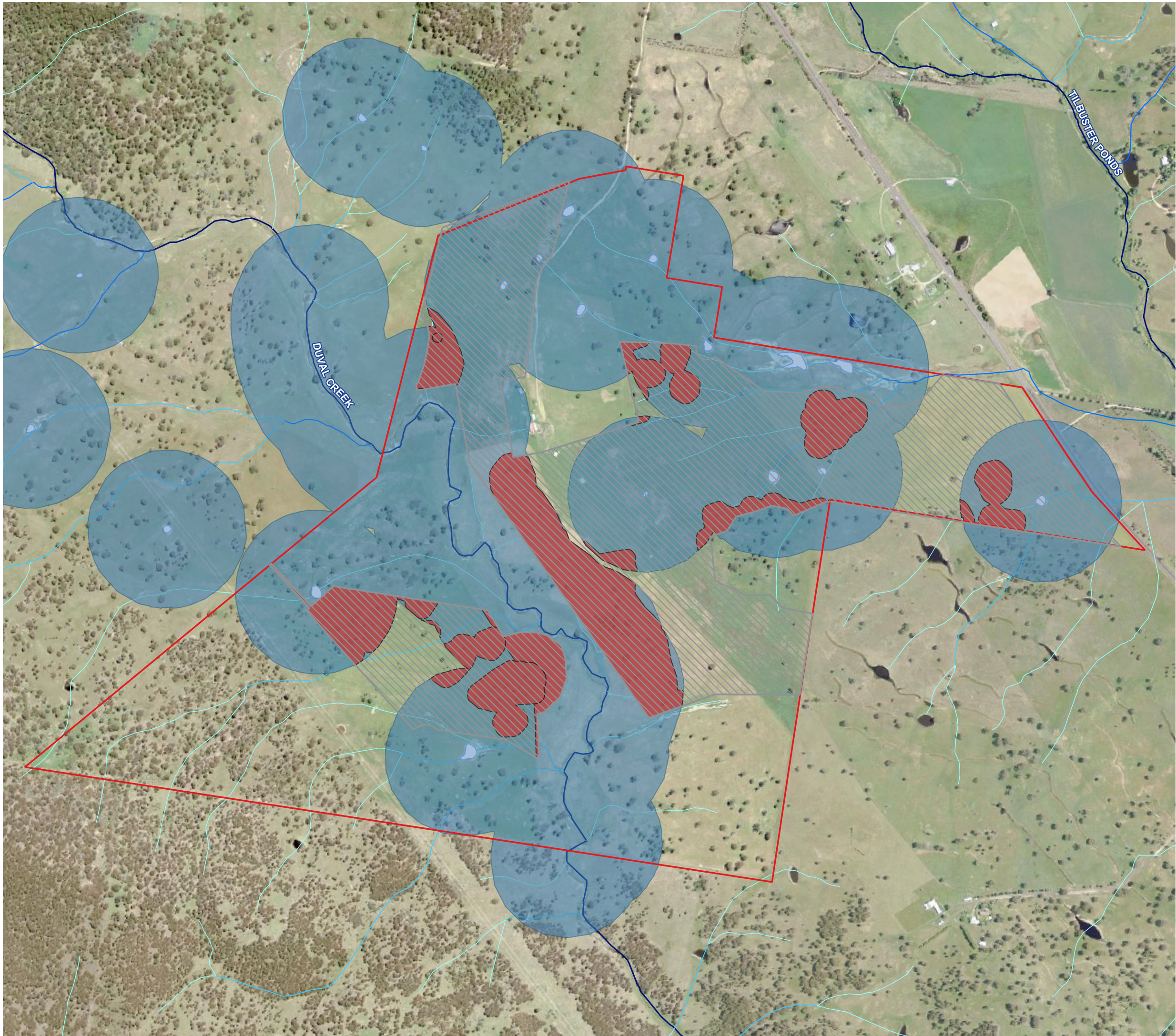
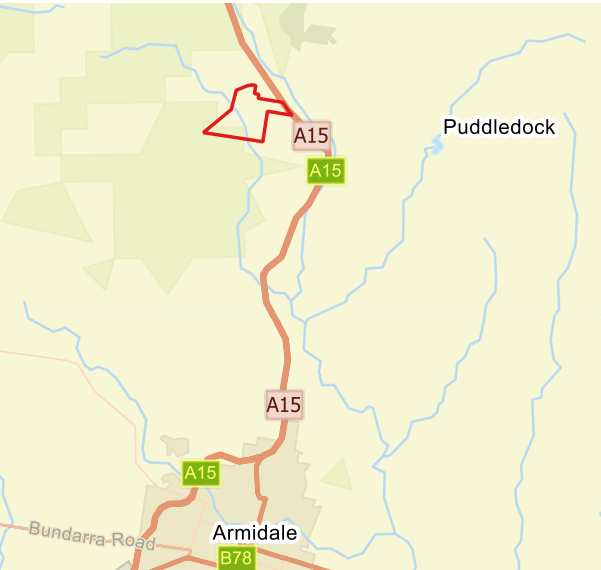


Figure 5-3 Southern Myotis species polygon

Legend

- Subject land
- 200m permanent waterways / dams buffer
- Southern Myotis species polygon
- Development footprint
- Mapped reservoirs**
 - Dams
- Strahler waterways**
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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Ref: 250639 Tilbuster SF Extra BDAR Owl Koala
Survey BDAR_250905 \ Figure 5-341 Myotis
species poly
Author: Bianca Heinze
Date created: 11.11.2025
Datum: GDA 2020 z56

6. Identifying prescribed impacts

Prescribed impacts are discussed in Section 6.1 and Table 13 of BDAR v1. This section supplements Table 13 to address CPHR comments on habitat connectivity.

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.
Habitat connectivity	☒ Yes / ☐ No	Areas of connectivity have been identified throughout the subject land as shown on Figure 3 in BDAR v1. Perimeter fencing around the PV arrays will reduce passage across the landscape by fauna, with potential to impact floristic composition and structure of woodland remnants. However, as the native vegetation in the development footprint (currently scattered paddock trees and small areas of open woodland) would be removed, the development footprint would no longer contribute to local connectivity. Further, more densely treed areas occur adjacent to the development footprint which continue to provide habitat connectivity. The avoidance of Duval Creek through both Tilbuster 1 and the proposed Tilbuster 2 will maintain the riparian connectivity corridor for fauna movement.	Masked Owl and Southern Myotis may use these habitat corridors. Ecosystem species, while not recorded on site, may also rely on habitat connectivity such as Dusky Woodswallow (<i>Artamus cyanopterus</i>) and Scarlet Robin (<i>Petroica boodang</i>). The structure and floristic composition of the Box Gum Woodland TEC depends upon vectors, pollinators and grazers accessing remnants.

Stage 2: Impact assessment

7. Avoid and minimise impacts

7.1. Avoiding and minimising direct/indirect impacts on project location and design

The initial proposal location and design was based on proximity to an existing approved solar farm project and biodiversity constraints that were identified by Ecosure in BDAR v1.

7.1.1. Initial project location and design

A preliminary analysis of biodiversity constraints was undertaken when the general position of the solar farm was initially identified (NGH, 2022). The analysis identified, categorised and mapped ecological constraints as follows:

- High constraint areas: potential TEC; occurrence of a SAI candidate PCT; threatened fauna habitat; protected riparian land
- Medium – high constraint areas: areas of native vegetation in poorer condition with potential to meet TEC status, and contribute to SAI
- Medium constraint areas: areas of degraded native vegetation condition with less understorey
- Low constraint areas - historically cultivated areas, exotic dominated paddocks and existing farm tracks.

Available areas of cleared pasture and cultivated land have been utilised as much as possible. The proposed development will be located across large areas of Category 1 land that has a history of modification and clearing from previous land use. Section 5.1.4 of BDAR v1 provides more commentary on early avoidance measures.

7.1.2. Final modification – project location and design

The initial development footprint, assessed in BDAR v1, has been adjusted following consultation with CPHR, GHD and NGH. Details of consultation are provided in Appendix F. The final footprint assessed herein avoids the majority of Box Gum Woodland TEC, provides for management of an avoided area and avoids serious disruption to connectivity along Duval Creek by installing perimeter fencing in two sections. These avoidance measures are discussed below.

Box Gum Woodland TEC - avoidance

Following concerns raised by CPHR regarding the potential for significant impacts to the Box Gum Woodland TEC (CPHR, 2025), the Applicant undertook modification to the project design to address recommendations to locate the proposal in lower condition vegetation zones. The development footprint is now much reduced in total area and in impact to Box Gum Woodland TEC with no EPBC Act listed community occurring in the development footprint, as shown in Table 7-1 and Table 7-2.

Table 7-1 Area of Box Gum Woodland TEC in development footprint and retained in subject land

Threatened Ecological Community	Total area in subject land	Total area in development footprint	Total area avoided
BC Act Box Gum Woodland	116.53 ha	22.49 ha (19.3%)	94.04 ha (80.7%)
Vegetation zones	VZ1-VZ4	VZ1 woodland 6.072 ha VZ2 woodland 12.971 ha VZ3 DNG 3.447 ha	
EPBC Act Box Gum Woodland	38.73 ha	0	38.73 ha (100%)

Table 7-2 Impact areas for Box Gum Woodland TEC of initial proposal and revised proposal

Entity	Initial Impact (BDAR v1)	Final Impact (BDAR v2)	Increased retention
Box Gum Woodland – BC Act listed	49.78 ha	22.49	+27.29 ha
Box Gum Woodland – EPBC Act listed	0.046 ha ²	0	+0.046 ha

Secure management for avoided areas

A regeneration area was initially proposed for along Duval Creek, however the location and extent were not fleshed out in the BDAR v1. For this iteration, a formal regeneration area has been negotiated with CPHR that provides the best ecological outcome. It consists mostly of VZ1_3359_WLdeg and VZ2_3359_WLcul (both areas of Box Gum Woodland TEC (Table 7-3)). The regeneration area is adjacent to a good quality patch of Box Gum Woodland (VZ4_3359_WLgood), and would link up the riparian area, zones 1-2 (higher condition woodland) and improve connectivity with zone 4 (the intersecting transmission line corridor notwithstanding). The management of the regeneration area would be implemented through the project's Ecological Restoration Plan (ERP) for land within the project's control, with on ground arrangements to align with the existing lease tenure. The ERP would be an operational plan and provide management for the life of the

² Reported in BDAR as 0ha. NGH calculation based on a hand-digitised approximation of DF used in BDAR, as incorrect spatial files were supplied.

project. The ERP is likely to include weed and stock management, with potential for seedling planting if natural regeneration is not apparent after a period of time (more information in Section 8.4).

Table 7-3 Proposed management (regeneration) area of avoided Box Gum Woodland (BGW)

NSW BGW in subject land	NSW BGW avoided	NSW BGW in Development Footprint	Proposed riparian regeneration area
116.530 ha	94.04 ha (80.7%)	22.49 ha	17.72 ha (15.2%)

Land management in development footprint

The proposed construction method will minimise impacts to native vegetation as PV arrays will be installed on the natural grade (i.e. without ground levelling or total removal of ground cover layer). The design minimises internal roads and uses existing farm tracks where possible. Following construction, ground cover will be allowed to regenerate and will be managed with a mix of mowing and grazing. Weed management will also be undertaken. These actions will see impacts upon areas of native vegetation minimised even within the development footprint.

Landscaping and screening

Screening vegetation will be planted along portions of the north-eastern footprint perimeter using species from the plant community types present in the subject land (PCT 3352, 3359) including koala feed tree canopy species. These actions will provide corridors that will likely provide habitat connectivity beyond the life of the project as well as koala feed trees to offset those cleared by the development. In this way, the project will minimise biodiversity impacts within the development footprint.

7.2. Avoid and minimise prescribed impacts

Communication between NGH, CPHR, GHD and the Applicant assisted with the avoidance and minimisation of prescribed impacts, particularly habitat connectivity and riparian fauna corridor movement.

7.2.1. Initial project location and worst-case scenario design

The initial development footprint considered fencing the two parts of the development footprint (on either side of Duval Creek) within one non-permeable perimeter fence (Figure 7-1). CPHR commented that design would create a barrier effect with retained Box Gum Woodland left isolated and the north-south riparian fauna corridor impeded.

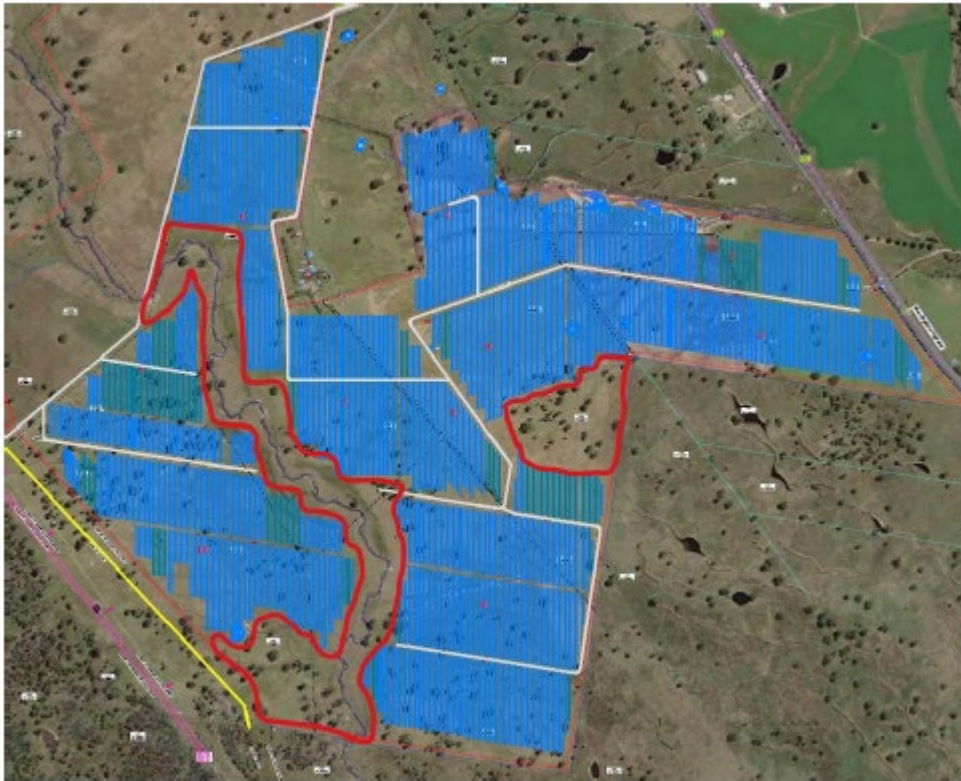


Figure 7-1 Areas of retained vegetation circled in thick red outlined would have been isolated due to proposed perimeter fencing (narrow red line) (CPHR, 2025)

7.2.2. Final modification – October 2025 project location and design

Perimeter fencing – avoid impacting connectivity

CPHR recommended that the proposed perimeter fencing be undertaken in two sections to avoid non-permeable fencing being constructed across Duval Creek. Fencing has been redesigned to hug more tightly to the proposed PV arrays and ancillary infrastructure which occurs in two discrete portions (refer to Figure 1-1). Each portion will be independently fenced and accessed via different roads, leaving Duval Creek unfenced as a wildlife corridor.

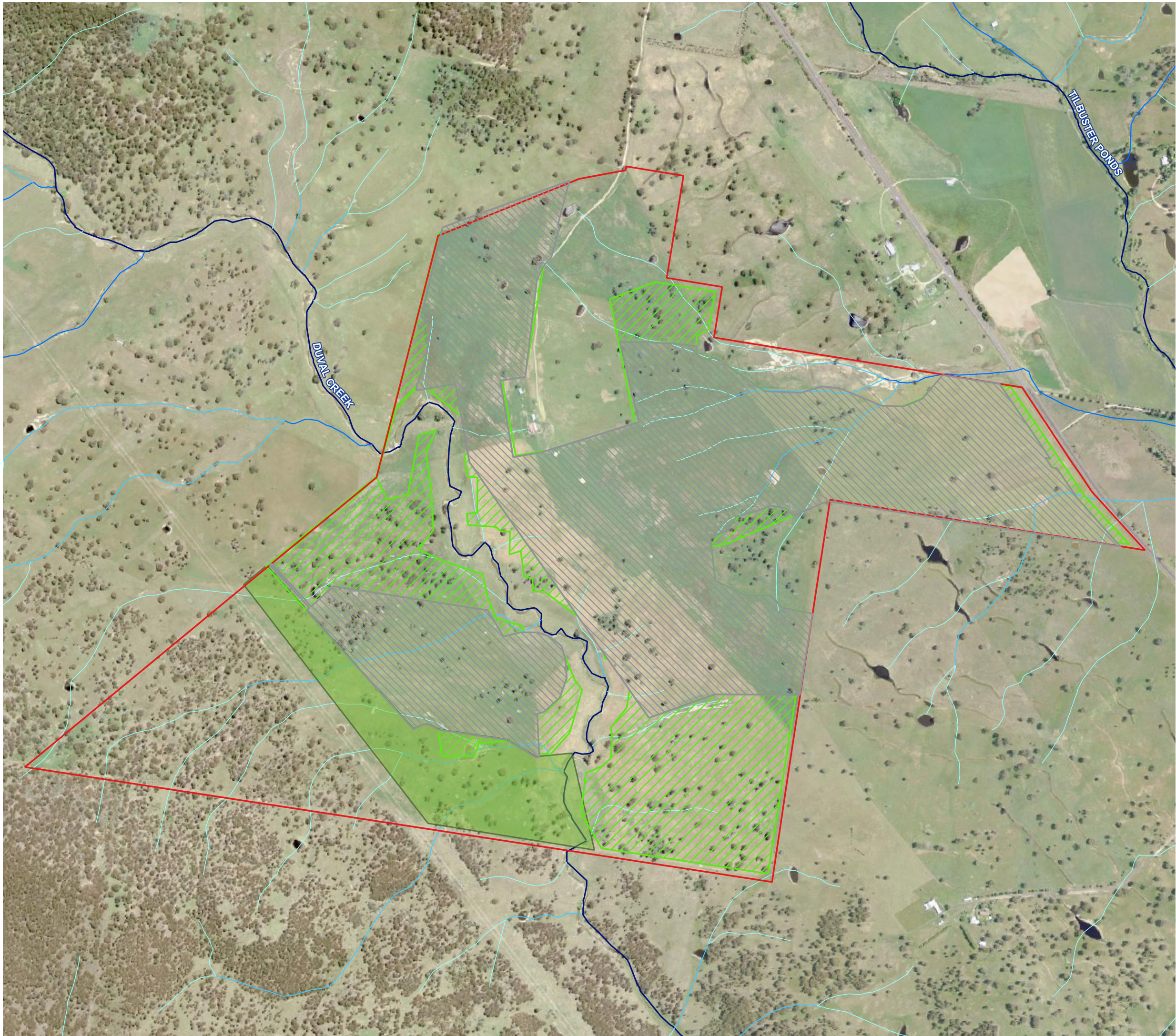
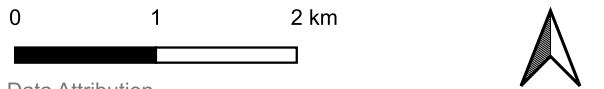
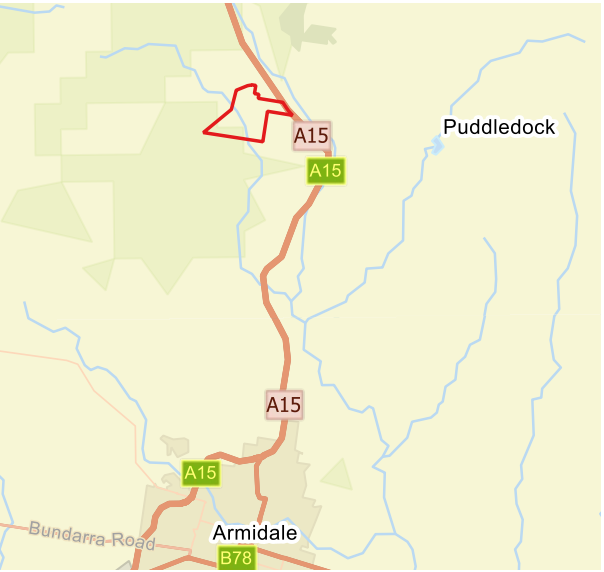


Figure 5-1 Avoided areas

- Legend
- Subject land
 - Development footprint
 - Avoided areas compared to BDAR v1
 - Managed regeneration area
- Strahler waterways
- 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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Ref: 250639 Tilbuster SF Extra BDAR Owl Koala
Survey BDAR_250905 \ Figure 7-1 Avoided areas
Author: Bianca Heinze
Date created: 31.10.2025
Datum: GDA 2020 z56

7.3. Summary of measures to avoid and minimise impacts

A summary of actions to avoid and minimise impacts to native vegetation and threatened entities is provided in Table 7-4.

Table 7-4 Avoidance and minimisation measures for direct, indirect and prescribed impacts

Action	Outcome	Timing	Responsibility
Modification of perimeter fencing design	Avoids barrier effects on riparian fauna corridor and enclosed patches of woodland. Increases overall habitat connectivity throughout Subject land.	Planning	Proponent
Relocating solar panel infrastructure from higher condition vegetation zones into lower condition vegetation zones	Avoids all EPBC Act listed Box Gum Woodland TEC/TEC. Avoids 80% of BC Act listed Box Gum Woodland TEC	Planning	Proponent
Nominated Box Gum Woodland management area	Provides security for avoided TEC area through management for regeneration 15% TEC for the life of the project)	Planning Operation	Proponent Operator
Focus proposal in low-moderate condition native vegetation	Minimises impacts to reduce likelihood of significant impact on Box Gum Woodland TEC/TEC.	Planning	Proponent
Construction method	Minimise ground disturbance will allow later regeneration from soil seedbank	Construction	Contractor
Operational management	Minimise loss of native vegetation within development footprint by allow groundcover regeneration under PV arrays	Operation	Proponent
Landscaping and screening	Minimise impact of native vegetation loss by replacing within required screen plantings Minimise impact of koala free tree removal by including species in screen plantings	Construction Operation	Contractor Operator

8. Impact assessment

Assumptions

The following assumptions underpin this impact assessment:

- All activities associated within the development would be contained wholly within the development footprint, including stockpiles, machinery manoeuvring, access tracks, infrastructure, asset protection zones and fencing.
- All activities associated with management and regeneration of avoided TEC will be contained wholly within the lease area. Access to these areas would be by light vehicles via existing farm tracks.

8.1. Direct impacts

This section supersedes Section 6.2 of the BDAR v1.

8.1.1. Residual direct impacts

The construction and operational phases of the proposal have the potential to impact biodiversity values at the site that cannot be avoided via impact minimisation and avoidance measures. This would occur through residual direct impacts, such as habitat clearance (and associated noise and disturbance) and ongoing existence of infrastructure (which may create barriers to movement and generate noise and disturbance). These are summarised in Table 8-1.

Table 8-1 Residual direct impacts to biodiversity during the construction and operational phases

Describe impact	BC Act status	EPBC Act Status	SAIL entity	Project phase/timing of impact	Extent (ha, number of individuals)
<i>White Box - Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (Part)</i>	CE	Not Listed	Yes	Construction	22.49 ha
PCT 3359 New England Hills Stringybark-Box Woodland	Not Listed	Not Listed	No	Construction	22.49 ha
PCT 3352 Armidale Quartz Hills Stringybark Forest	Not Listed	Not Listed	No	Construction	11.35 ha
Native veg (all zones)	n/a	n/a	n/a	Construction	33.84 ha
Non-native veg	n/a	n/a	n/a	Construction	70.54 ha
<i>Tyto novaehollandiae</i> Masked Owl	V	Not listed	No	Construction	18.99 ha
<i>Myotis macropus</i> Southern Myotis	V	Not listed	No	Construction	28.89 ha

8.1.2. Changes in vegetation integrity scores

Although the construction method does not involve ground levelling and it is expected that groundcover will regenerate under PV arrays during the operational phase of the proposal, for the purposes of credit offset generation it is assumed that the VI scores of native vegetation will be zero following development (Table 8-2).

Table 8-2 Change in VI Score for each vegetation zone as a result of identified impacts

Vegetation zone	PCT ID	Management zone	Area (ha)	Before development			After development			Change		
				Composition	Structure	Function	VI score	Composition	Structure	Function	VI score	Change in VI score
1	3359	Degraded	6.07	17.8	25.2	39	0	0	0	-39	25.9	-25.9
2	3359	Cultivated	12.97	7.6	7.9	66	0	0	0	-66	15.8	-15.8
3	3359	DNG	3.45	7.8	50.2	0	0	0	0	0	7.3	-7.3
5	3352	Degraded	11.35	17.4	52.2	35	0	0	0	-35	31.7	-31.7

8.1.3. Loss of hollow-bearing trees and feed trees

Hollow-bearing trees (HBTs)

Surveys identified 94 HBTs within the vegetation zones mapped in the subject land. Of these, 45 would be removed including:

- Eight trees with large (>20cm diameter) hollows
- Six trees with medium (10-20cm diameter) hollows
- Thirty trees with small (<10cm diameter) hollow
- Additional trees with fissures.

HBT clearing has been avoided as much as possible and mitigation measures have been implemented for residual impacts to HBTs including clearing supervision (see Section 8.4). Four HBTs with large hollows are within the Masked Owl species polygon (refer to Section 5.4).

Koala feed trees (KFT)

The proposal would lead to the clearing of approximately 178 KFT from the 376 recorded (refer to Section 5.2.2) as shown in Table 8-3, across all vegetation zones including the scattered tree zone.

Table 8-3 Quantification of KFT loss by rank

Rank 1	Rank 2	Unknown	Total
78	71	29	178 (47%)

8.1.4. Scattered trees

Impacts to scattered trees assessed via the scattered tree module and calculated via the BAM-C are presented in Appendix D and summarised in Table 8-4 below.

Table 8-4 Quantification of scattered tree loss due to proposal

PCT code	No. trees	Species	DBH Category	Contain hollows	Class
3359	2	<i>Eucalyptus blakelyi</i>	>=20 and <50cm	False	2
3359	5	<i>Eucalyptus blakelyi</i>	>=50cm	False	3
3359	1	<i>Eucalyptus blakelyi</i>	>=50cm	True	3
3359	1	<i>Eucalyptus bridgesiana</i>	>=20 and <50cm	False	2
3359	1	<i>Eucalyptus</i>	>=50cm	True	3

PCT code	No. trees	Species	DBH Category	Contain hollows	Class
		<i>melliodora</i>			
3359	1	<i>Eucalyptus melliodora</i>	>=20 and <50cm	False	2
3359	7	<i>Eucalyptus melliodora</i>	>=50cm	False	3

8.2. Indirect impacts

BDAR v1 Section 6.3 provides a current assessment of indirect impacts of the proposal.

8.3. Prescribed impacts

BDAR v1 Section 6.1 provides a current assessment of the prescribed impacts of the proposal. One prescribed impact, habitat connectivity, is re-assessed below. This assessment of habitat connectivity supersedes BDAR v1.

8.3.1. Impacts of development on habitat connectivity

Nature and extent

The majority of the development footprint is situated within unregulated Category 1 Land (108.16 ha). North-south connectivity would be maintained along Duval Creek (to the extent that it occurs). Connectivity along the western edge of intact forest and woodland would be improved through the regeneration area. There would be loss of paddock trees in the development footprint and impermeable fencing around the PV array which may have a minor impact on east-west stepping-stone connectivity; however this would be retained in adjacent property to the east of the development footprint and in better quality bushland further south.

All internal fencing would be standard farm fencing style for sheep and without barbed wire. Use of barbed wire may cause harm to wildlife.

Duration and consequences

Removal of native vegetation and threatened species habitat has the potential to result in fragmentation, with resultant effects on fauna species movement, reproduction and gene flow. The species most likely to be impacted by changes to connectivity are those reliant on moving large distances on the ground such as koalas, should this species be present within the greater area surrounding the subject land. Short-term impacts for fauna would result in species' requiring relocation outside of the fenced development footprint. Long-term impacts for both fauna and flora could include permanent breaks in connectivity due to installation of perimeter fencing and access roads. The loss of these areas is unlikely to have an impact that could cause

a decline in a threatened species, as there are sufficient connective corridors retained for fauna (including flora pollinators and vectors) to modify their behaviour to maintain connectivity.

8.4. Mitigating residual impacts – management measures and implementation

This section incorporates and builds on Table 14, Table 15 and Table 16 of the BDAR v1.

Impacts that cannot be avoided must be mitigated. Presented here is a summary of mitigation measures proposed in BDAR v1 along with additional measures recommended to address residual direct and indirect, prescribed and uncertain impacts identified.

In accordance with CPHR comments, Table 8-5 builds on the measures in Table 14 BDAR v1, which include:

- Pre-clearance surveys
- Fauna friendly internal fencing
- Relocation of removed habitat features to retained areas
- Construction Environmental Management Plan including erosion and sediment controls.

Table 15 of the BDAR v1 for measures to mitigate residual indirect impacts, includes a range of management plans. In line with CPHR comments, Section 8.4.1 clarifies the purpose and scope of each recommended management plan. Other measures in Table 15 include:

- Clearly delineating clearing limits during construction phase to avoid inadvertent impacts to adjacent vegetation
- CEMP inclusions being spill management procedure, dust monitoring, sediment barriers.

Table 8-5 Additional mitigation measures for impacts (based on Table 15 of the BDAR v1)

Type of impact	Duration/timing	Extent	Frequency	Consequence	Mitigation
Direct impact Loss of hollow-bearing trees	For the life of project / long-term	45 HBT	One-off	Direct loss of native fauna habitat Injury and mortality of fauna during clearing of habitat features.	- Fauna spotter catcher present for HBT removal - Nest Box Management Plan to be developed and implemented including: - Temporary shelter resources for displaced hollow-dependent fauna - Hollow replacement based on details of hollows cleared and species likely to be using them.
Direct impact Loss of Koala Feed Trees (KFT)	For the life of project / long-term	187	One-off	Direct loss of Koala resting, breeding and feeding habitat.	- Tree planting in landscape screening to include KFT species from PCTs onsite. - Natural regeneration of KFT in regeneration should be protected (e.g. with guards) from grazing - Plantings in regeneration area should include KFT species of PCTs onsite.

8.4.1. Implementation of management measures

This section incorporates and replaces Table 16 in the BDAR v1.

To address CPHR concerns, the aim, actions, timing and responsibility of management plans have been refined in Table 8-6. In summary, the Biodiversity Management Plan (BMP) will guide construction phase to minimise impact upon extant native vegetation. The active management (including weed control) and maintenance of the Box Gum Woodland TEC regeneration areas will be guided by the Ecological Management Plan (EMP) in the construction and operational phase of the project. The control of weeds, pests and pathogens in the development footprint will be guided by the Pest and Weed Management Plan (PWMP) during the construction and operational phases.

Table 8-6 Summary of proposed mitigation and management measures for residual impacts

Management plan	Aim	Action (inclusions)	Timing (phase)	Responsibility
Biodiversity Management Plan (BMP)	To minimise impact upon adjacent native vegetation and fauna during development construction	• Best practice removal and disposal of vegetation, including retention of habitat features. • Fauna management protocols, including timing for clearing activities, ecological supervision requirements (fauna spotter catchers), and reporting of mortalities. • Unexpected threatened species finds procedure. • Measures to protect the vegetation and fauna habitat outside the approved development footprint areas (e.g. clear delineation of works area, temporary fencing). • Habitat features removed to be relocated to regeneration area. • Hollow-bearing tree removal procedure. • Nest box management plan (refer to Table 8-5), including fauna spotter catchers. • Document control procedure (e.g. proformas) to record	Pre-construction, construction	Contractor Operator

Management plan	Aim	Action (inclusions)	Timing (phase)	Responsibility
		details of above actions to be included in audit reports.		
Ecological Restoration Plan (ERP)	To provide management guidance for the Box Gum Woodland regeneration area	- Set out regeneration strategy including passive (natural) regeneration and active revegetation (planting) as appropriate with endemic native species, for the life of the project. - Include timeframes for monitoring regeneration and triggers for management actions (e.g. weed cover leading to weed control, low rates of natural regeneration leading to planting) - Permeable fencing and management to exclude stock from regeneration area. - Weed and pest monitoring and control, including protection of saplings from native grazing if required. - Erosion monitoring and control if required. - Species list for revegetation must be derived from PCTs on site and include compensatory planting of Koala feed trees. - Include an ERP review and improvement process.	Construction Operation	Operator
Pest and Weed Management Plan (PWMP)	To control pest, weed and pathogen populations in the development footprint (i.e. within the perimeter fenced area)	- Standard basic vehicle hygiene protocol (wash-down requirement) in line with NSW <i>Hygiene Guidelines</i> (DPIE 2020) and best practice weed management consistent with guidelines provided by DPI NSW, focusing on priority weeds for the construction phase. - Proformas for construction company to fill out to evidence adherence. - Management actions for the control of priority weeds, pathogens and pest species in the development footprint in	Construction Operation	Contractor Operator

Management plan	Aim	Action (inclusions)	Timing (phase)	Responsibility
		accordance with Commonwealth, state and local guidance. • Maintenance and monitoring plan for the life of the project. • Clear performance targets • Corrective actions, including triggers and responses • PWMP review and improvement process • Timing and responsibilities		
Construction Traffic Management Plan (CTMP)	To minimise the likelihood of vehicle strike during development construction.	Measures to minimise the likelihood of vehicle strike during construction, including reduced speed, restricted movement at dusk and dawn, and protocols for actions if native animals are reported hit by construction vehicles.	Construction	Contractor
Landscape Plan (LP)	To guide the design, planting, and aesthetic integration of vegetation and green infrastructure within a development site.	Incorporate the planting of native, endemic species only, including Koala feed trees.	Construction	Operator

9. Serious and irreversible impacts (SAIL)

This section supersedes Section 7.1 of the BDAR v1, providing updated impact calculations.

The subject land contains one SAIL entity, the BC Act listed *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (BC Act Box Gum Woodland TEC). This TEC occurs across the development footprint (Figure 9-1) and all around the site.

Table 9-1 Impact assessment provisions for the Box Gum Woodland TEC/TEC

Assessment criteria (DPIE 2019)	Comments
a) the action and measures taken to avoid the direct and indirect impact on the potential entity for an SAIL	Up to 116.53 ha of Box Gum Woodland TTEC occurs within the subject land. This occurs as three condition states: • Zone 1 – degraded open woodland with a grazed understorey (6.07 ha) • Zone 2 - open woodland with predominantly exotic understory subject to cultivation (12.97 ha) • Zone 3 – degraded treeless areas with mixed native and exotic grazed understory (3.45 ha). The proposal will directly impact 22.49 ha (or 19.3%) of the Box Gum Woodland TEC on site and has been designed to avoid 80.7% of the TEC including areas of highest ecological condition. Indirect impacts have been identified and will be managed according to the measures outlined in Section 8.4.
b) the area (ha) and condition of the TEC to be impacted directly and indirectly by the proposed development. The condition of the TEC is to be represented by the vegetation integrity score for each vegetation zone	The area and condition of TEC to be directly impacted is: • Zone 1: 6.07 ha, VI score 25.9 • Zone 2: 12.97 ha, VI score 15.8 • Zone 3: 3.45 ha, VI score 7.3. The highest quality area of TEC (Zone 4, 26.64 ha, VI score 77.3) will be avoided in its entirety.
c) a description of the extent to which the impact exceeds the threshold for the potential entity that is specified in the Guidance to assist a	No threshold has been defined by DCCEEW for the extent of Box Gum Woodland TEC to be removed that would constitute a SAIL.

Assessment criteria (DPIE 2019)	Comments
decision-maker to determine a SAI	
d) the extent and overall condition of the potential TEC within an area of 1,000 ha, and then 10,000 ha, surrounding the proposed development footprint	There is no data available to assess the likely extent or condition of the TEC in the wider area. A review of the SVTM identified 251 ha of PCTs associated with the Box Gum Woodland within the 1,000 ha surrounding the subject land (25.1%), and 1,172 ha within the 10,000 ha (17.1%) surrounding the subject land. In the broader area surrounding the subject land, Box Gum Woodland TEC is likely to have been significantly modified and degraded due to human land use, resulting in a poorer condition particularly in more fertile and accessible areas that have been favoured for agricultural practices. The TEC is likely to occur in a higher condition state in areas more isolated or where elevation or terrain decreases the likelihood of anthropogenic disturbance.
e) an estimate of the extant area and overall condition of the potential TEC remaining in the IBRA subregion before and after the impact of the proposed development has been taken into consideration	SVTM available for the Armidale Plateau IBRA Subregion indicates that over 50,000 ha of Box Gum Woodland TEC could occur within the mapped area, with a further 50,000 ha mapped as derived grasslands, some of which could represent Box Gum Woodland TEC in a treeless form, as allowed by the NSW Scientific Communities final determination (NSWSC 2011). The 22.49 ha that would be removed for the proposal equates to less than 0.1% of the estimate above.
f) an estimate of the area of the potential TEC that is in the reserve system within the IBRA region and the IBRA subregion	A paucity in information means a reliable estimate cannot be made. Review of plans of management for reserves within the IBRA region and sub-region were reviewed. Plans on Management associated with the following reserves do not identify Box Gum Woodland: • Duval Nature Reserve • Oxley Wild Rivers National Park • Avondale State Conservation Area. Plans of Managements for the Imbota Nature Reserve and Yina Nature Reserve state that Red-Gum Yellow-Box Grassy Woodlands occurs within

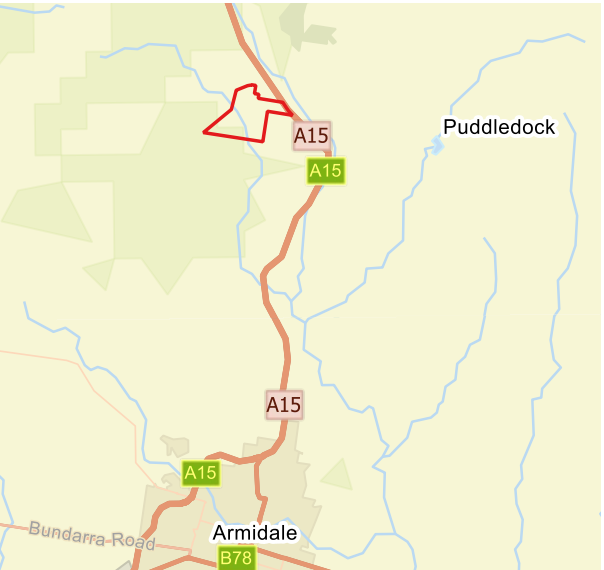
Assessment criteria (DPIE 2019)	Comments
	each reserve, however no indication of area is given.
g) the development, clearing or biodiversity certification proposal's impact on: (1) abiotic factors critical to the long-term survival of the potential TEC; for example, how much the impact will lead to a reduction of groundwater levels or the substantial alteration of surface water patterns	The proposal will have minimal impact on groundwater, with no interaction or extractions planned. Potential impacts to groundwater during the construction phase may include issues related to sediment, erosion and other pollution, however these risks will be short-term, localised and managed through implementation of a CEMP. As such, there is not expected to be an impact on abiotic factors critical to the long-term survival of the TEC.
(2) characteristic and functionally important species through impacts such as, but not limited to, inappropriate fire/flooding regimes, removal of understorey species or harvesting of plants	Within the development footprint, the proposal will result in the direct loss of functionally important mature trees, including hollow bearing trees, that provide foraging and roosting opportunities for fauna species associated with the TEC. The proposal will not introduce fire or flooding regimes to the site, nor harvesting of plants, nor result in an increase of natural occurrences of these events. With implementation of BMP and ERP, the proposal will not result in impacts to characteristic and functionally important species in the retained TEC areas.
(3) the quality and integrity of an occurrence of the potential TEC through threats and indirect impacts including, but not limited to, assisting invasive flora and fauna species to become established or causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants which may harm or inhibit growth of species in the potential TEC.	Areas shown for regeneration are expected to improve in quality and integrity including through weed and pest management undertaken by the operator. Current land management practices, including weed management undertaken by the land owner, would continue across other avoided TEC areas would continue.
h) direct or indirect fragmentation and isolation of an important area of the potential TEC	Important areas are assumed to be those of higher quality and providing habitat connectivity. These areas have been retained. A regeneration area would better connect three higher quality patches of TEC. Perimeter fencing has been modified to

Assessment criteria (DPIE 2019)	Comments
	minimise impacts upon connectivity, thus isolation and fragmentation are avoided.
i) the measures proposed to contribute to the recovery of the potential TEC in the IBRA subregion	Around 80% of the TEC has been avoided and 15% is included in a regeneration area, which links three patches of TEC. This will contribute to subregional recovery.



Figure 9-1 SAIL risk

- Legend
- Entities at risk of SAIL (BC Act Box Gum Woodland)
 - Subject land
 - Development footprint
 - Strahler waterways
 - 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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Ref: 250639 Tilbuster SF Extra BDAR Owl Koala
Survey BDAR_250905 \ Figure 9-1 SAIL risk
Author: Bianca Heinze
Date created: 31.10.2025
Datum: GDA 2020 z56

10. Impact summary

This section supersedes Section 8 of the BDAR v1.

10.1. Determine an offset requirement for impacts

10.1.1. Impacts on native vegetation and TECs or ECs (ecosystem credits)

An offset is required for all impacts of development on PCTs that are associated with:

- a) A vegetation zone that has a vegetation integrity score ≥ 15 where the PCT is representative of an endangered or critically endangered ecological community, or
- b) A vegetation zone that has a vegetation integrity score of ≥ 17 where the PCT is associated with threatened species habitat (as represented by ecosystem credits), or is representative of a vulnerable ecological community, or
- c) A vegetation zone that has a vegetation integrity score ≥ 20 where the PCT is not representative of a TEC or associated with threatened species habitat.

Impacts to vegetation in Zone 3 does not require an offset, as set out in Table 10-1 and Figure 10-1. The PCTs and vegetation zones requiring offset, and the ecosystem credits required, are documented in Table 10-2 and mapped in Figure 10-1. The associated credit classes for ecosystem credits generated are detailed in Section 11 below.

Table 10-1 Impacts that **do not** require offsets - ecosystem credits

Vegetation zone	PCT name	Impact area	TEC association	Entity at risk of SAIL?	Current VI score	Future VI score
VZ3_3359_DNG	New England Hills Stringybark-Box Woodland	3.45 ha	Yes – BC Act Box Gum Woodland	Yes	7.3	0

Table 10-2 Impacts that require an offset - ecosystem credits

Vegetation zone	PCT name	TEC	Impact area (ha)	Current VI score	Future VI score	Change in VI score	Biodiversity risk weighting	No. ecosystem credits required
VZ1_3359_WLdeg	New England Hills Stringybark-Box Woodland	Yes – BC Act Box Gum Woodland	6.07	25.9	0	-25.9	2.5	98
VZ2_3359_WLcul	New England Hills Stringybark-Box Woodland	Yes – BC Act Box Gum Woodland	12.97	15.8	0	-15.8	2.5	128
VZ5_3352_WLdeg	Armidale Quartz Hills Stringybark Forest	No	11.35	31.7	0	-31.7	2	180
Total credits								406

10.1.2. Scattered tree module

In accordance with CPHR comments, the scattered tree module has been updated to include all scattered trees in the development footprint. This section replaces Section 8.1.2 of BDAR v1. A total of fourteen ecosystem credits have been generated through the clearing of 18 Class 2 and Class 3 scattered trees. PCT 3359 has been nominated as the relevant credit profile given that the trees to be cleared are all species associated with this PCT.

Table 10-3 Scattered trees ecosystem credit requirement for trees belonging to PCT 3359

Scattered Tree Class	Number of credits required	
	Hollows	Without hollows
Class 2	0	3
Class 3	2	9
Total	2	12

10.1.3. Planted native vegetation

In accordance with BAM Appendix D, no offsets are required for the planted native vegetation that will be impacted by the proposal as there was no evidence that it supported threatened species.

10.1.4. Impacts on threatened species and their habitat (species credits)

The BAM-C generated offset obligations for two candidate species which are listed in Table 10-4 below. A total of 502 species credit have been generated.

Table 10-4 Impacts that require an offset - species credits

Common name	Scientific name	BC Act status	EPBC Act status	Loss of habitat (ha) or individuals	Biodiversity risk weighting	No. of species credits required	Suitable IBRA subregion for offset
Southern Myotis	<i>Myotis macropus</i>	V	-	28.9	2	320	Any in NSW
Masked Owl	<i>Tyto novaehollandiae</i>	V	-	19.0	2	182	Any in NSW
Total credits						502	

10.1.5. Offsets required under the EPBC Act

The proposal avoids EPBC Act listed Box Gum Woodland TEC, therefore no offsets are required for this entity. Surveys did not record any EPBC Act listed species in the subject land. No EPBC Act listed species

were assumed to occur or have potential to be impacted as a result of the proposal. As such, the proposal is not considered to require offsets under the BAM (Bilateral Agreement) or the EPBC Offsets Policy.

10.2. Impacts that do not require further assessment

Area that do not require further assessment include areas of Category 1-Exempt land (Table 10-5). Details of the land category assessment can be found in BDAR v1. These areas are mapped in Figure 10-1.

Table 10-5 Impacts that do not need further assessment for ecosystem credits

Impact	Location within subject land	Justification why no further assessment is required
Non-native vegetation	Category 1 areas throughout the development footprint	No native vegetation. Assessed for prescribed impacts only. Refer to Appendix 4 of BDAR v1.

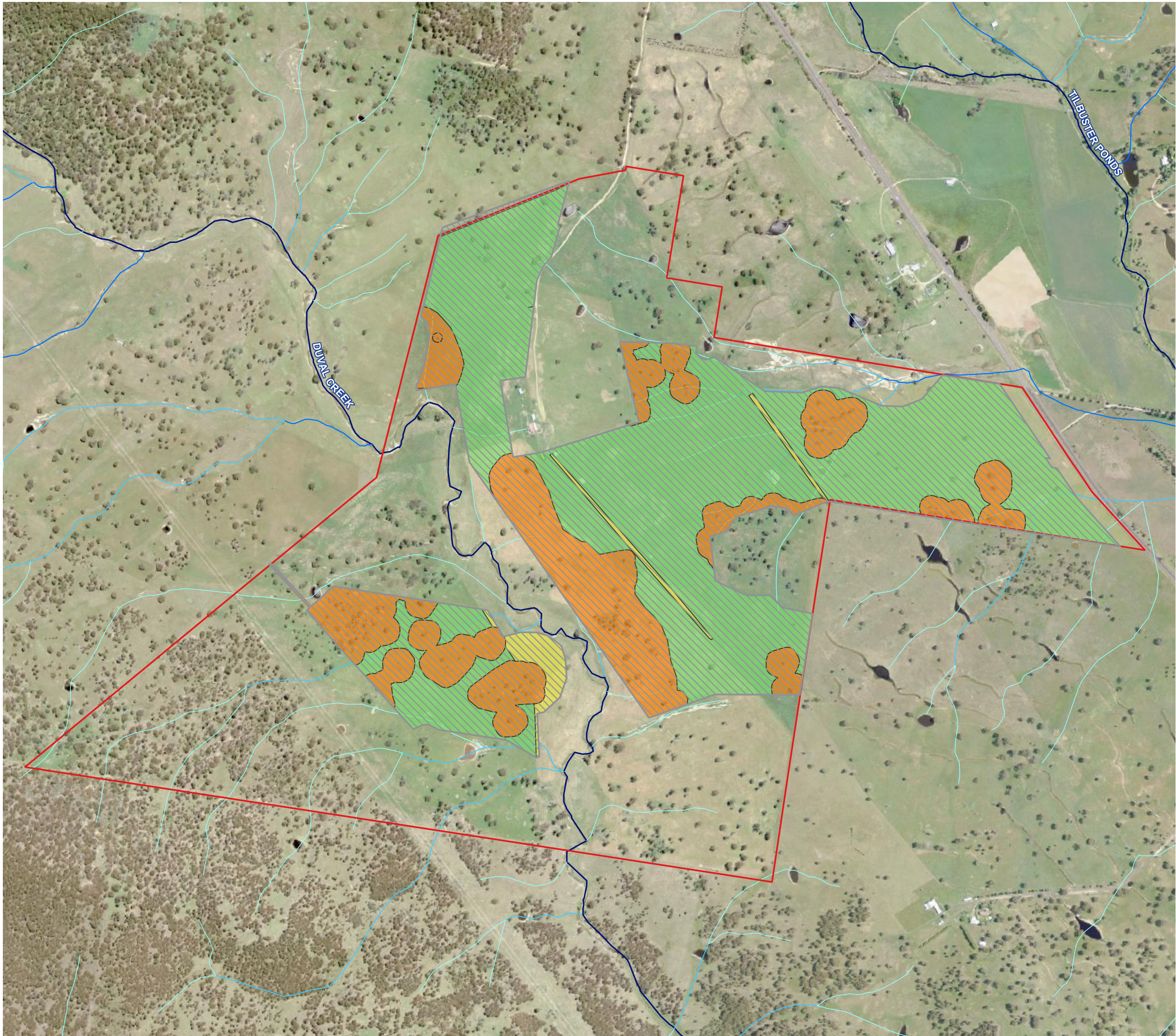
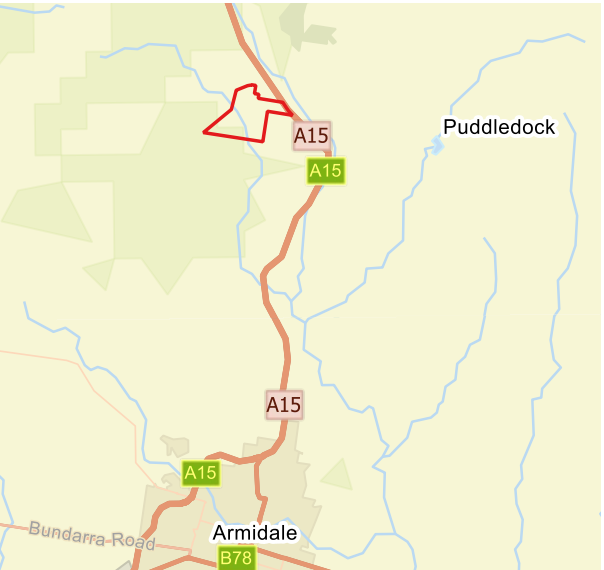


Figure 10-1 Offset / assessment requirement

- Legend
- Offset / assessment requirement
- Offset required
 - No offset required
 - Not assessable
 - Subject land
 - Development footprint
- Strahler waterways
- 1st Order Stream
 - 2nd Order Stream
 - 3rd Order Stream
 - 4th Order Stream
 - 5th Order Stream
 - >5th Order Stream



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Ref: 250639 Tilbuster SF Extra BDAR Owl Koala
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11. Biodiversity credit report

Below is a summary of the biodiversity credit reports for ecosystem credits (Table 11-1) and species credits (Table 11-2) generated by the BAM-C. A copy of the credit reports is provided in Appendix D. The BAM-C credit report identifies the numbers and classes of biodiversity credits required to be retired in accordance with the like-for-like requirements of the offset rules. Retirement of these ecosystem credits can occur in accordance with the like-for-like rules in clause 6.3 of the *Biodiversity Conservation Regulation 2017*, or where reasonable steps have been taken, the variation rules in clause 6.4 as set out in Offset Rules and Ecosystem Credits guide (DPE 2023).

11.1. Ecosystem credits

Table 11-1 Ecosystem credit class and matching credit profile

Ecosystem credit	Attributes shared with matching credits						
	PCT name	PCT vegetation class	PCT vegetation formation	Associated TEC or EC	Offset trading group	Hollow bearing trees present?	IBRA subregion (in which proposal is located)
Zone1_3 359_WLdeg Zone2_3 359_WLcul Zone3_3 359_DNG	New England Hills Stringybark-Box Woodland	New England Grassy Woodlands	Grassy Woodlands	<i>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney</i>	<i>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney</i>	Yes	Armidale Plateau

Ecosystem credit	Attributes shared with matching credits						
	PCT name	PCT vegetation class	PCT vegetation formation	Associated TEC or EC	Offset trading group	Hollow bearing trees present?	IBRA subregion (in which proposal is located)
				<i>Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions</i>	<i>Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions</i>		
Zone5_3 352_WLdeg	Armidale Quartz Hills Stringybark Forest	New England Grassy Woodlands	Grassy Woodlands	None	New England Grassy Woodlands - ≥ 70% - <90% cleared group (including Tier 2 or higher threat status). -	Yes	Armidale Plateau

11.2. Ecosystem credits – scattered tree module

Table 11-2 Scattered tree credit class and obligation

PCT	TEC	HBT credit	No HBT credit	Total credits
3359 – New England Hills Stringybark – Box Woodland	<i>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions</i>	2	12	14

11.3. Species credits

Table 11-3 Species credit class and matching credit profile

Species credit	Attributes shared with matching credits				
	Name of threatened species	Kingdom	BC Act status	EPBC Act status	IBRA region
<i>Myotis macropus</i>	Southern Myotis	Animalia	V	-	Any in NSW
<i>Tyto novaehollandiae</i>	Masked Owl	Animalia	V	-	Any in NSW

12. Conclusion

NGH has prepared this BDAR v2 on behalf of EP Sunspot 5 Pty Ltd to update the assessment of biodiversity impacts of the proposal under the Biodiversity Assessment Method (BAM, 2020), in accordance with comments from CPHR. The proposed Stage 2 of the Tilbuster Solar Farm is classified as a State Significant Development (SSD) under the Environmental Planning and Assessment Act 1979 (EP&A Act) and as such a BDAR and entry into the Biodiversity Offset Scheme (BOS) is a requirement.

BDAR v1 lists two PCTs identified in the proposal area:

- PCT 3352 Armidale Quartz Stringybark Forest
- PCT 3359 New England Hills Stringybark-Box Woodland.

PCT 3359 meets the criteria for listing under the BC Act as TEC: *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*. An area of PCT 3359 (38.73 ha) also meets the EPBC Act criteria for the related TEC *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands*.

One threatened entity was recorded in the subject land during additional surveys, and an additional species credit species had been assumed present based on local records:

- Masked Owl (*Tyto novaehollandiae*) (recorded)
- Southern Myotis (*Myotis Macropus*) (assumed).

No other threatened species credit species were recorded or assumed present. Surveys identified 94 HBTs in the subject land. Of these, 45 would be removed. These may provide shelter for Southern Myotis, threatened ecosystem species and common species.

Avoidance and minimisation of impacts has been conducted through the planning phases in accordance with the BAM, including avoidance of:

- 94.04 ha of BC Act Box Gum Woodland (~80%)
- 38.73 ha of EPBC Act Box Gum Woodland (100%)
- Habitat for Masked Owl and Southern Myotis (as per BC Act Box Gum Woodland).

Based on the above, the credit requirement for has been defined in Table 11-1 and Table 11-2. Mitigation measures have been outlined to reduce the direct, indirect, and prescribed impacts to biodiversity. Impacts to Matters of National Environmental Significance (MNES) have been assessed through the BDAR using the Biodiversity Assessment Method (BAM).

13. References

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Appendix A Tilbuster 2 BDAR v1 (Ecosure 2024)

Ecosure (2024) *Tilbuster 2 Solar Farm Biodiversity Development Assessment Report*, November 2024. Report prepared for GHD is appended overleaf. The aforementioned report is referred to as BDAR v1 throughout this document.

Appendix B BDAR requirements compliance

The operational manuals (Stage 1 and Stage 2) provide further operational guidance for the preparation of a BDAR and are companion documents to the BAM. In preparing BDARs, assessors should read the operational manuals in conjunction with the BAM. Some best practice items outlined in the operational manuals that are not reflected in BAM Appendix K have been added in red within Table 13-1.

Table 13-1 Assessment of compliance with BDAR minimum information requirements

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
Introduction	Chapters 2 and 3	Information	
		Introduction to the biodiversity assessment including:	–
		☒ brief description of the proposal	Section 1.4
		☒ identification of subject land boundary, including:	Figure 1-1
		☒ operational footprint	
		☒ construction footprint indicating clearing associated with temporary/ancillary construction facilities and infrastructure	
		☒ general description of the subject land	<1.3 (Ecosure, 2024)>
		☒ sources of information used in the assessment, including reports and spatial data	<1.7 (Ecosure, 2024)>
		☒ identification and justification for entering the BOS	<1.1 (Ecosure, 2024)>
		Maps and tables	

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ Map of the subject land boundary showing the final proposal footprint, including the construction footprint for any clearing associated with temporary/ancillary construction facilities and infrastructure	Figure 1-2
Landscape	Sections 3.1 and 3.2, Appendix E	Information	
		Identification of site context components and landscape features, including:	–
		☒ general description of subject land topographic and hydrological setting, geology and soils	<2.1 (Ecosure, 2024)>
		☒ per cent native vegetation cover in the assessment area (as described in BAM Section 3.2)	<3.2 (Ecosure, 2024)>
		☒ IBRA bioregions and subregions (as described in BAM Subsection 3.1.3(2.))	<2.1.1 (Ecosure, 2024)>
		☒ rivers and streams classified according to stream order (as described in BAM Subsection 3.1.3(3.) and Appendix E)	<2.1.2 (Ecosure, 2024)>
		☒ wetlands within, adjacent to and downstream of the site (as described in BAM Subsection 3.1.3(3.))	<2.1.2 (Ecosure, 2024)>
		☒ connectivity of different areas of habitat (as described in BAM Subsection 3.1.3(5–6.))	<2.1.3 (Ecosure, 2024)>
		☒ karst, caves, crevices, cliffs, rocks and other geological features of significance and for vegetation clearing proposals, soil hazard features (as described in BAM Subsections 3.1.3(7.) and 3.1.3(12.))	<2.1.4 (Ecosure, 2024)>
		☒ areas of outstanding biodiversity value occurring on the subject land and assessment area (as described in BAM Subsection 3.1.3(8–9.))	<2.1.6 (Ecosure, 2024)>
		☐ any additional landscape features identified in any SEARs for the proposal	n/a

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ NSW (Mitchell) landscape on which the subject land occurs	<2.1.7 (Ecosure, 2024)>
		☒ details of field reconnaissance undertaken to confirm the extent and condition of landscape features and native vegetation cover (as described in Operational Manual Stage 1 Section 2.4)	<3.0 (Ecosure, 2024)> <Figure 4 and Figure 5 (Ecosure, 2024)>
		Maps and tables	
		☒ Site Map	Figure 1-2
		☒ Property boundary	<Figure 2 (Ecosure, 2024)>
		☒ Boundary of subject land	
		☒ Cadastre of subject land (including labelling of Lot and DP or section plan if relevant)	
		☒ Landscape features identified in BAM Subsection 3.1.3	
		☒ Location Map	<Figure 2, Figure 3 (Ecosure, 2024)>
		☐ Digital aerial photography at 1:1,000 scale or finer	
		☒ Boundary of subject land	
		☒ Assessment area (i.e. the subject land and either 1500 m buffer area or 500 m buffer for linear development)	
		☒ Landscape features identified in BAM Subsection 3.1.3	
		☐ Additional detail (e.g. local government area boundaries) relevant at this scale	
		Landscape features identified in BAM Subsection 3.1.3 and to be shown on the Site Map and/or Location Map include:	–
		☒ IBRA bioregions and subregions	<Figure 2, Figure 3 (Ecosure, 2024)>
		☒ rivers, streams and estuaries	

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ wetlands and important wetlands	
		☒ connectivity of different areas of habitat	
		☒ karst, caves, crevices, cliffs, rocks and other geological features of significance and if required, soil hazard features	
		☒ areas of outstanding biodiversity value occurring on the subject land and assessment area	
		☐ any additional landscape features identified in any SEARs for the proposal	
		☒ NSW (Mitchell) landscape on which the subject land occurs	
		Data	
		☐ All report maps as separate jpeg files	Ecosure package
		Individual digital shape files of:	–
		☒ subject land boundary	
		☐ assessment area (i.e. subject land and 1500 m buffer area) boundary	Ecosure package
		☐ cadastral boundary of subject land	Ecosure package
		☐ areas of native vegetation cover	Ecosure package
		☐ landscape features	Ecosure package
Native vegetation	Chapter 4, Appendix A and Appendix H	Information	
		☒ Identify native vegetation extent within the subject land, including cleared areas and evidence to support differences between mapped vegetation extent and aerial imagery (as described in BAM Section 4.1(1–3.) and Subsection 4.1.1)	<3.3 (Ecosure, 2024)> <Figure 4, Figure 5 (Ecosure, 2024)>
		☒ Provide justification for all parts of the subject land that do not contain native vegetation (as described in BAM Subsection 4.1.2)	<3.1 (Ecosure, 2024)>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ Review of existing information on native vegetation including references to previous vegetation maps of the subject land and assessment area (described in BAM Section 4.1(3.) and Subsection 4.1.1)	<3.4.1 (Ecosure, 2024)> <Figure 6 (Ecosure, 2024)>
		☒ Describe the systematic field-based floristic vegetation survey undertaken in accordance with BAM Section 4.2	<3.4.2 (Ecosure, 2024)>
		☐ Where relevant, describe the use of more appropriate local data, provide reasons that support the use of more appropriate local data and include the written confirmation from the decision-maker that they support the use of more appropriate local data (as described in BAM Subsection 1.4.2 and Appendix A)	n/a
		For each PCT within the subject land, describe:	–
		☒ PCT name and ID	<3.4.1 & Table 1 (Ecosure, 2024)>
		☒ vegetation class	<3.4.1 & Table 1 (Ecosure, 2024)>
		☒ extent (ha) within subject land	<3.4.1 & Table 1 (Ecosure, 2024)>
		☒ evidence used to identify a PCT including any analyses undertaken, references/sources, existing vegetation maps (BAM Section 4.2(1–3.))	<3.4.1 & Figure 6 & Figure 7 (Ecosure, 2024)>
		☒ plant species relied upon for identification of the PCT and relative abundance of each species	<3.4.3 & Table 3 & Table 4 & Appendix 5 (Ecosure, 2024)>
		☒ if relevant, TEC status including evidence used to determine vegetation is the TEC (BAM Subsection 4.2.2(1–2.))	<3.5 & Table 7 (Ecosure, 2024)>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ estimate of per cent cleared value of PCT (BAM Subsection 4.2.1(5.))	<3.4.2 & Table 3 (Ecosure, 2024)>
		Describe the vegetation integrity assessment of the subject land, including:	–
		☐ identification and mapping of vegetation zones (as described in BAM Subsection 4.3.1)	<3.4.1, 3.4.4 & Figure 7 (Ecosure, 2024)> Figure 4-1
		☒ description of vegetation zones within the subject land (as described in Operational Manual Stage 1 Table 2 and Subsection 3.3.2)	<3.4.4 & Table 4 (Ecosure, 2024)> Section 4.4
		☒ area (ha) of each vegetation zone	<3.4.4 & Table 4 (Ecosure, 2024)> Section 4.4
		☒ assessment of patch size (as described in BAM Subsection 4.3.2)	<3.4.4 & Table 4 (Ecosure, 2024)>
		☒ survey effort (i.e. number of vegetation integrity survey plots) as described in BAM Subsection 4.3.4(1–2.)	<3.4.4 & Table 4, Table 5 (Ecosure, 2024)>
		☐ use of relevant benchmark data from BioNet Vegetation Classification (as described in BAM Subsection 4.3.3(5.))	n/a
		Where use of more appropriate local benchmark data is proposed (as described in BAM Subsection 1.4.2, BAM Subsection 4.3.3(5.) and BAM Appendix A):	–
		☐ identify the PCT or vegetation class for which local benchmark data will be applied	–
		☐ identify published sources of local benchmark data (if benchmarks obtained from published sources)	

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☐ describe methods of local benchmark data collection (if reference plots used to determine local benchmark data)	
		☐ provide justification for use of local data rather than BioNet Vegetation Classification benchmark values	–
		☐ provide written confirmation from the decision-maker that they support the use of local benchmark data	–
		Maps and tables	
		☒ Map of native vegetation extent within the subject land at scale not greater than 1:10,000 including identification of all areas of native vegetation including areas that are ground cover only, cleared areas (as described in BAM Section 4.1(1–3.)) and all parts of the subject land that do not contain native vegetation (BAM Subsection 4.1.2)	<Figure 5 (Ecosure, 2024)>
		☒ Map of PCTs within the subject land (as described in BAM Section 4.2(1.))	<Figure 7 (Ecosure, 2024)>
		☐ Map of vegetation zones within the subject land (as described in BAM Subsection 4.3.1)	<Figure 7 (Ecosure, 2024)> Figure 4-1
		☒ Map the location of floristic vegetation survey plots and vegetation integrity survey plots relative to PCT boundaries	<Figure 7 (Ecosure, 2024)>
		☒ Map of TEC distribution on the subject land and table of TEC listing, status and area (ha)	<Figure 7 & Table 7 (Ecosure, 2024)>
		☒ Map of patch size locations for each native vegetation zone and table of patch size areas (as described in BAM Subsection 4.3.2)	<Figure 7 & Table 4 (Ecosure, 2024)>
		Table of current vegetation integrity scores for each vegetation zone within the site and including:	–
		☒ composition condition score	<Table 5 & Table 6 (Ecosure, 2024)>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ structure condition score	Table 4-2
		☒ function condition score	
		☒ presence of hollow bearing trees	
		Data	
		☐ All report maps as separate jpeg files	Ecosure package / NGH package
		☐ Plot field data (MS Excel format)	Ecosure package
		☒ Plot field datasheets	<Appendix F>
		Digital shape files of:	–
		☐ PCT boundaries within subject land	Ecosure package
		☐ TEC boundaries within subject land	Ecosure package
		☒ vegetation zone boundaries within subject land	NGH package
		☐ floristic vegetation survey and vegetation integrity plot locations	Ecosure package
Threatened species	Chapter 5	Information	
		Identify ecosystem credit species likely to occur on the subject land, including:	–
		☒ list of ecosystem credit species derived from the BAM-C (as described in BAM Subsection 5.1.1 and Section 5.2(1.))	<4.1 & Appendix 6 (Ecosure, 2024)>
		☒ justification and supporting evidence for exclusion of any ecosystem credit species based on geographic limitations, habitat constraints or vagrancy (as described in BAM Subsections 5.2.1 and 5.2.2)	<4.2 & Table 9 (Ecosure, 2024)>
		☒ justification for addition of any ecosystem credit species to the list	<4.2 & Table 9 (Ecosure, 2024)>
		Identify species credit species likely to occur on the subject land, including:	–

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ list of species credit species derived from the BAM-C (as described in BAM Subsection 5.1.1)	<4.1, Table 8, & Appendix 7 (Ecosure, 2024)>
		☒ justification and supporting evidence for exclusions based on geographic limitations, habitat constraints or vagrancy (as described in BAM Subsections 5.2.1 and 5.2.2)	<4.1, Table 8, Table 9 & Appendix 7 (Ecosure, 2024)> Section 5
		☒ justification and supporting evidence for exclusions based on degraded habitat constraints and/or microhabitats on which the species depends (as described in BAM Subsection 5.2.2)	<4.1, Table 8 & 4.2, Table 9 & Appendix 7 (Ecosure, 2024)> Section 5
		☒ justification for addition of any species credit species to the list	<4.2 Table 9 (Ecosure, 2024)>
		From the list of candidate species credit species, identify:	–
		☒ species assumed present within the subject land (if relevant) (as described in BAM Subsection 5.2.4(2.a.))	<4.2, Table 9 & Appendix 7 (Ecosure, 2024)>
		☒ species present within the subject land on the basis of being identified on an important habitat map for a species (as described in BAM Subsection 5.2.4(2.d.))	
		☒ species for which targeted surveys are to be completed to determine species presence (BAM Subsection 5.2.4(2.b.))	
		☐ species for which an expert report is to be used to determine species presence (BAM Subsection 5.2.4(2.c.))	
		Present the outcomes of species credit species assessments from:	–
		☒ threatened species survey (as described in BAM Section 5.2.4)	<4.4 Table 10 & Table 11 (Ecosure, 2024)>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
			Table 5-3
		☐ expert reports (if relevant) including justification for presence of the species and information used to make this determination (as described in BAM Subsection 5.2.4, Section 5.3, Box 3)	–
		Where survey has been undertaken include detailed information on:	–
		☒ survey method and effort (as described in BAM Section 5.3)	<4.4 Table 10 & Figure 10 & Figure 11 (Ecosure, 2024)> Section 2
		☒ justification of survey method and effort (e.g. citation of peer-reviewed literature) if approach differs from the department's taxa-specific survey guides or where no relevant guideline has been published	<4.4 Table 10 (Ecosure, 2024)> Section 2
		☒ timing of survey in relation to requirements in the TBDC or the department's taxa-specific survey guides. Where survey was undertaken outside these guides include justification for the timing of surveys	<4.4 Table 10 (Ecosure, 2024)>
		☒ survey personnel and relevant experience	<Appendix 1 (Ecosure, 2024)> Appendix E
		☒ describe any limitations to surveys and how these were addressed/overcome	<4.1 (Ecosure, 2024)> Section 2.5
		Where an expert report has been used in place of survey (as described in BAM Section 5.3, Box 3), include:	–
		☐ justification of the use of an expert report	–

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☐ identify the expert, provide evidence of their expert credentials and departmental approval of expert status ☐ all requirements of Box 3 have been addressed in the expert report	
		Where use of local data is proposed (BAM Subsection 1.4.2):	–
		☐ identify relevant species	–
		☐ identify data to be amended	
		☐ identify source of information for local data, e.g. published literature, additional survey data, etc.	
		☐ justify use of local data in preference to VIS Classification or TBDC data	
		☐ provide written confirmation from the decision-maker that they support the use of local data	–
		Species polygon completed for species credit species present within the subject land (assumed present or determined on the basis of survey, expert report or important habitat map) ensuring that:	–
		☒ the unit of measure for each species is documented	Table 5-4
		for species assessed by area:	–
		☒ the polygon includes the extent of suitable habitat for the target species within the subject land (as described in BAM Subsection 5.2.5)	Section 5.4>>
		☒ a description of, and evidence-based justification for, the habitat constraints, features or microhabitats used to map the species polygon including reference to information in the TBDC for that species and any buffers applied	Section 5.4
		for species assessed by counts of individuals:	–
		☐ the number of individual plants present on the subject land (as described in BAM Subsection 5.2.5(3.))	–
		☐ the method used to derive this number (i.e. threatened species survey or expert report) and evidence-based justification for the approach taken	–

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☐ the polygon includes all individuals located on the subject land with a buffer of 30 m around the individuals or groups of individuals on the subject land	–
		☒ Identify the biodiversity risk weighting for each species credit species identified as present within the subject land (as described in BAM Section 5.4)	Table 5-4
		Maps and tables	
		☒ Table showing ecosystem credit species in accordance with BAM Subsection 5.1.1, and identifying:	<4.2 Table 9 & Appendix 6 (Ecosure, 2024)>
		☒ the ecosystem credit species removed from the list	<4.2 Table 9 & Appendix 6 (Ecosure, 2024)>
		☒ the sensitivity to gain class of each species	–
		☒ Table detailing species credit species in accordance with BAM Section 5.2 and identifying:	<4.1 Table 8 & Appendix 7 (Ecosure, 2024)> Table 5-4
		☒ the species credit species removed from the list of species because the species is considered vagrant, out of geographic range or the habitat or microhabitat features are not present	<4.1 Table 8 (Ecosure, 2024)>
		☒ the candidate species credit species not recorded on the subject land as determined by targeted survey, expert report or important habitat map	<4.4 Table 11 (Ecosure, 2024)>
		☒ Table detailing species credit species recorded or assumed as present within the subject land, habitat constraints or microhabitats associated with the species, counts of individuals (flora)/extent of suitable habitat (flora and fauna) (as described in BAM Subsection 5.2.6) and biodiversity risk weighting (BAM Section 5.4)	<4.2 Table 9 (Ecosure, 2024)> Table 5-4

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ Map indicating the GPS coordinates of all individuals of each species recorded within the subject land and the species polygon for each species (as described in BAM Subsection 5.2.5)	Figure 5-2 Figure 5-3
		Data	
		☐ Digital shape files of suitable habitat identified for survey for each candidate species credit species	Ecosure package–
		☐ Survey locations including GPS coordinates of any plots, transects, grids	Ecosure package
		☐ Digital shape files of each species polygon including GPS coordinates of located individuals	NGH package
		☐ Species polygon map in jpeg format	NGH package
		☐ Expert reports and any supporting data used to support conclusions of the expert report	N/A
		☐ Field datasheets detailing survey information including prevailing conditions, date, time, equipment used, etc.	Ecosure package Section 2.4, Appendix C
Prescribed impacts	Chapter 6	Information	
		Identify potential prescribed biodiversity impacts on threatened entities, including:	–
		☒ karst, caves, crevices, cliffs, rocks and other geological features of significance (as described in BAM Subsection 6.1.1)	<6.1 (Ecosure, 2024)>
		☒ occurrences of human-made structures and non-native vegetation (as described in BAM Subsection 6.1.2)	<Table 13 (Ecosure, 2024)>
		☒ corridors or other areas of connectivity linking habitat for threatened entities (as described in BAM Subsection 6.1.3)	Section 6
		☒ waterbodies or any hydrological processes that sustain threatened entities (as described in BAM Subsection 6.1.4)	
		☐ protected animals that may use the proposed wind farm development site as a flyway or migration route (as described in BAM Subsection 6.1.5)	N/A

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ where the proposed development may result in vehicle strike on threatened fauna or on animals that are part of a threatened ecological community (as described in BAM Subsection 6.1.6)	<Table 13 (Ecosure, 2024)>
		☒ Identify a list of threatened entities that may be dependent upon or may use habitat features associated with any of the prescribed impacts	<6.4 (Ecosure, 2024)> Section 8.3
		☒ Describe the importance of habitat features to the species including, where relevant, impacts on life cycle or movement patterns (e.g. Subsection 6.1.3)	<6.4 (Ecosure, 2024)> Section 8.3
		Where the proposed development is for a wind farm:	–
		☐ identify a candidate list of protected animals that may use the development site as a flyway or migration route, including: resident threatened aerial species, resident raptor species and nomadic and migratory species that are likely to fly over the proposal area (as described in BAM Subsection 6.1.5)	N/A
		☐ provide details of targeted survey for candidate species of wind farm developments undertaken in accordance with BAM Subsection 6.1.5(2–3.)	N/A
		☐ predict the habitual flight paths for nomadic and migratory species likely to fly over the subject land and map the likely habitat for resident threatened aerial and raptor species (BAM Subsection 6.1.5(4.))	N/A
		Where the proposal may result in vehicle strike:	–
		☒ identify a list of threatened fauna or protected fauna species that are part of a TEC and at risk of vehicle strike due to the proposal	<6.4 & Table 13 (Ecosure, 2024)
		Maps and tables	
		☐ Map showing location of any prescribed impact features (i.e. karst, caves, crevices, cliffs, rocks, human-made structures, etc.)	N/A
		☐ Map showing location of potential vehicle strike locations	n/a

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☐ Maps of habitual flight paths for nomadic and migratory species likely to fly over the site and maps of likely habitat for threatened aerial species resident on the site (for wind farm developments only)	N/A
		Data	
		☐ Digital shape files of prescribed impact feature locations	–
		☐ Prescribed impact features map in jpeg format	–
Avoid and minimise impacts	Chapter 7	Information	
		Demonstration of efforts to avoid and minimise impacts on biodiversity values (including prescribed impacts) associated with the proposal location in accordance with Chapter 7, including an analysis of alternative:	–
		☒ modes or technologies that would avoid or minimise impacts on biodiversity values and justification for selecting the proposed mode or technology	<7.1 & 7.2> <5 & 6 (Ecosure, 2024> Section 7
		☒ routes that would avoid or minimise impacts on biodiversity values and justification for selecting the proposed route	<7.1 & 7.2> <5 & 6 (Ecosure, 2024> Section 7
		☒ alternative locations that would avoid or minimise impacts on biodiversity values and justification for selecting the proposed location	<7.1 & 7.2> <5 & 6 (Ecosure, 2024> Section 7
		☒ alternative sites within a property on which the proposal is located that would avoid or minimise impacts on biodiversity values and justification for selecting the proposed site	<7.1 & 7.2> <5 & 6 (Ecosure, 2024>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ Describe efforts to avoid and minimise impacts (including prescribed impacts) to biodiversity values through proposal design (as described in BAM Sections 7.1 and 7.2)	<7.1 & 7.2> <5 & 6 (Ecosure, 2024> Section 7
		☒ Identification of any other site constraints that the proponent has considered in determining the location and design of the proposal (as described in BAM Subsection 7.2.1(3.))	<7> <5 & 6 (Ecosure, 2024>
		☒ Detail measures or options considered but not implemented because they are not feasible and/or practical (e.g. due to site constraints)	<7> <5 & 6 (Ecosure, 2024>
		Maps and tables	
		☒ Table of measures to be implemented to avoid and minimise the impacts of the proposal, including action, outcome, timing and responsibility	<Table 12 & Table 14 & Table 15 (Ecosure, 2024>
		☐ Map of alternative footprints considered to avoid or minimise impacts on biodiversity values; and of the final proposal footprint, including construction and operation	Figure 7-2
		☐ Maps demonstrating indirect impact zones where applicable	n/a>
		Data	
		Digital shape files of:	–
		☒ alternative and final proposal footprint	NGH package
		☒ direct and indirect impact zones	NGH package
		☒ Maps in jpeg format	NGH package
Assessment of impacts	Chapter 8, Sections 8.1 and 8.2	Information	

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☐ Determine the impacts on native vegetation and threatened species habitat, including a description of direct impacts of clearing of native vegetation, threatened ecological communities and threatened species habitat (as described in BAM Section 8.1)	<Table 8-1> <Table 14 (Ecosure, 2024)> Section 8
		Assessment of indirect impacts on vegetation and threatened species and their habitat including (as described in BAM Section 8.2):	Section 8.2
		☒ description of the nature, extent, frequency, duration and timing of indirect impacts of the proposal	<Table 15 (Ecosure, 2024)>
		☒ documenting the consequences to vegetation and threatened species and their habitat including evidence-based justifications	<Table 15 (Ecosure, 2024)>
		☒ reporting any limitations or assumptions, etc. made during the assessment	<0> <6 (Ecosure, 2024)>
		☒ identification of the threatened entities and their habitat likely to be affected	<Table 15 (Ecosure, 2024)> Section 8
		Assessment of prescribed biodiversity impacts (as described in BAM Section 8.3) including:	–
		assessment of the nature, extent frequency, duration and timing of impacts on the habitat of threatened species or ecological communities associated with:	–
		☒ karst, caves, crevices, cliffs, rocks and other features of geological significance	<Table 13 (Ecosure, 2024)> <8.2> <Table 8-5>
		☒ human-made structures	<Table 13 (Ecosure, 2024)> <8.2>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
			<Table 8-5>
		☒ non-native vegetation	<Table 13 (Ecosure, 2024)> <8.2> <Table 8-5>
		☒ connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range	<Table 13 (Ecosure, 2024)> <8.2> Section 8.3
		☒ movement of threatened species that maintains their life cycle	<Table 13 (Ecosure, 2024)>
		☒ water quality, waterbodies and hydrological processes that sustain threatened species and threatened ecological communities	<Table 13 (Ecosure, 2024)> <8.2> <Table 8-5>
		☐ assessment of the impacts of wind turbine strikes on protected animals	N/A
		☒ assessment of the impacts of vehicle strikes on threatened species of animals or on animals that are part of a TEC	<Table 13 (Ecosure, 2024)> <8.2> <Table 8-5>
		☒ evaluate the consequences of prescribed impacts	<Table 13 (Ecosure, 2024)> Section 8.3 <Table 8-5>
		☒ describe impacts that are uncertain	<Table 13 (Ecosure, 2024)>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
			<8.2> <Table 8-5>
		☒ document limitations to data, assumptions and predictions	<Table 13 (Ecosure, 2024)> <8.2> <Table 8-5>
		Maps and tables	
		☒ Table showing change in vegetation integrity score for each vegetation zone as a result of identified impacts	<Table 8-2> <Table 17 (Ecosure, 2024)> Table 8-2
		Data	
		N/A	–
Mitigation and management of impacts	Chapter 8, Sections 8.4 and 8.5	Information	
		Identification of measures to mitigate or manage impacts in accordance with the recommendations in BAM Sections 8.4 and 8.5 including:	–
		☒ techniques, timing, frequency and responsibility	<Table 8-6>
		☒ identify measures for which there is risk of failure	<Table 16 (Ecosure, 2024)>
		☒ evaluate the risk and consequence of any residual impacts	Table 8-5 Table 8-6
		☒ document any adaptive management strategy proposed	<Table 8-6> <6.6 & Table 16 (Ecosure, 2024)>

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		Identification of measures for mitigating impacts related to:	–
		☒ displacement of resident fauna (as described in BAM Subsection 8.4.1(2.))	<Table 8-6>
		☒ indirect impacts on native vegetation and habitat (as described in BAM Subsection 8.4.1(3.))	<6.6 & Table 16 (Ecosure, 2024)>
		☒ mitigating prescribed biodiversity impacts (as described in BAM Subsection 8.4.2)	Table 8-5
		☒ Details of the adaptive management strategy proposed to monitor and respond to impacts on biodiversity values that are uncertain (BAM Section 8.5)	<Table 8-6> <6.6 & Table 16 (Ecosure, 2024)>
		Maps and tables	
		☒ Table of measures to be implemented before, during and after construction to mitigate and manage impacts of the proposal, including action, outcome, timing and responsibility	<Table 8-6> <6.6 & Table 16 (Ecosure, 2024)>
		Data	
		N/A	–
Impact summary	Chapter 9	Information	
		Identification and assessment of impacts on TECs and threatened species that are at risk of a serious and irreversible impacts (SAII, in accordance with BAM Section 9.1) including:	–
		☒ addressing all criteria in Subsection 9.1.1 for each TEC listed as at risk of an SAII present on the subject land	< Table 9-1 > < Table 17 (Ecosure, 2024) > Table 9-1
		☒ for each TEC, report the extent of the TEC in NSW	< Table 9-1 > < Table 17 (Ecosure, 2024) >
		☒ addressing all criteria in Subsection 9.1.2 for each threatened species at risk of an SAII present on the subject land	< Table 9-1 >

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
			< Table 17 (Ecosure, 2024) >
		☐ for each threatened species, report the population size in NSW	< Table 9-1 > < Table 17 (Ecosure, 2024) >
		☒ documenting assumptions made and/or limitations to information	< Table 9-1 >
		☒ documenting all sources of data, information, references used or consulted	< Table 17 (Ecosure, 2024) >
		☒ clearly justifying why any criteria could not be addressed	
		☒ Identification of impacts requiring offset in accordance with BAM Section 9.2	Section 10 < Table 17 (Ecosure, 2024) >
		☒ Identification of impacts not requiring offset in accordance with BAM Subsection 9.2.1(3.)	< Table 9-1 > < Table 17 (Ecosure, 2024) > Section 10
		☒ Identification of areas not requiring assessment in accordance with BAM Section 9.3	Section 10
		Maps and tables	
		☒ Map showing the extent of TECs at risk of an SAIL within the subject land	< Table 9-1 > < Table 17 (Ecosure, 2024) > Figure 9-1
		☐ Map showing location of threatened species at risk of an SAIL within the subject land	n/a
		Map showing location of:	–
		☒ impacts requiring offset	Figure 10-1
		☒ impacts not requiring offset	Figure 10-1

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ areas not requiring assessment	Figure 10-1
		Data	
		Digital shape files of:	–
		☒ extent of TECs at risk of an SAIL within the subject land	NGH package
		☒ location of threatened species at risk of an SAIL within the subject land	NGH package
		☒ boundary of impacts requiring offset	NGH package
		☒ boundary of impacts not requiring offset	NGH package
		☒ boundary of areas not requiring assessment	NGH package
		☒ Maps in jpeg format	NGH package
Impact summary	Chapter 10	Information	
		Ecosystem credits and species credits that measure the impact of the development on biodiversity values, including:	–
		☒ future vegetation integrity score for each vegetation zone within the subject land (Equation 25 and Equation 26 in BAM Appendix H)	Table 10-2
		☒ change in vegetation integrity score (BAM Subsection 8.1.1)	
		☒ number of required ecosystem credits for the direct impacts of the proposal on each vegetation zone within the subject land (BAM Subsection 10.1.2)	
		☒ biodiversity risk weighting for each	Table 10-2
		☒ number of required species credits for each candidate threatened species that is directly impacted on by the proposal (BAM Subsection 10.1.3)	< Table 20 (Ecosure, 2024) > < Table 11-2 >
		Maps and tables	
		☒ Table of PCTs requiring offset and the number of ecosystem credits required	< Table 18 (Ecosure, 2024) >

BDAR section	BAM ref.	BAM requirement	Page reference(s) in the BDAR
		☒ Table of threatened species requiring offset and the number of species credits required	< Table 20 (Ecosure, 2024) > < Table 11-2 >
		Data	
		☐ Submitted proposal in the BAM Calculator	–
Biodiversity credit report	Chapter 10	Information	
		☒ Description of credit classes for ecosystem credits and species credits at the development or clearing site or land to be biodiversity certified (BAM Section 10.2)	< Table 18, Table 19 & Table 20 (Ecosure, 2024) > < Table 11-1 & Table 11-2 >
		☒ BAM credit report in pdf format	< Appendix 10 (Ecosure, 2024) > < Appendix D >
		Maps and tables	
		☒ Table of credit class and matching credit profile	< Table 18, Table 19 & Table 20 (Ecosure, 2024) > < Table 11-1 & Table 11-2 >
		Data	
		☒ BAM credit report in pdf format	< Appendix 10 (Ecosure, 2024) > < Appendix D >

Appendix C Survey data

C.1 Survey photos



Figure 13-1 Masked Owl

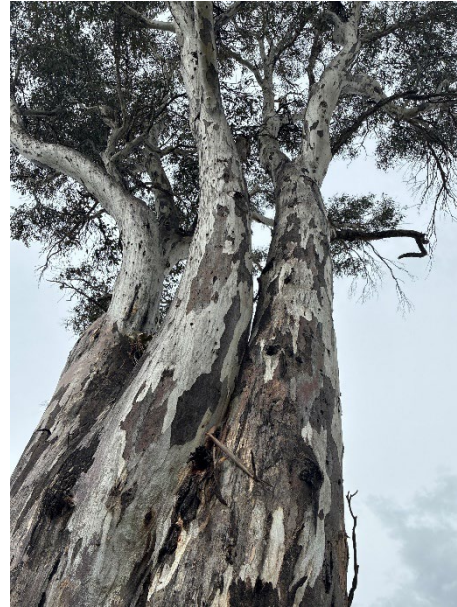


Figure 13-2 Koala Feed Tree survey



Figure 13-3 Hollow-bearing tree - stag

C.2 Spotlighting results

Common name	Species name	Status
Brush-tailed Possum	<i>Trichosurus vulpecula</i>	Common
Sugar Glider	<i>Petaurus breviceps</i>	Common
Peron's Tree Frog	<i>Litoria peronii</i>	Common

C.3 Call playback results

Common name	Species name	Status
Owlet Nightjar	<i>Aegotheles cristatus</i>	Common
Masked Owl	<i>Tyto novaehollandiae</i>	BC Act - Vulnerable

C.4 SAT survey results

Survey number	Scats found
SAT 1	Nil
SAT 2	Nil
SAT 3	Nil
SAT 4	Nil
SAT 5	Nil
SAT 6	Possum, sheep

C.5 Opportunistic records

Common name	Species name	Status
Eastern Bearded Dragon	<i>Pogona barbata</i>	Common

Appendix D BAM calculator credit reports

Note: Credit reports are valid for 14 days following the report generated date. The BDAR/BCAR must be submitted within this timeframe or new reports generated.

The following are appended overleaf:

- a) Credits summary report
- b) Biodiversity credit report (Like-for-like)
- c) Candidate threatened species report
- d) Predicted species report.



BAM Vegetation Zones Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00049575//24/00049576	Tilbuster 2 Solar Farm Extension	05/08/2025
Assessor Name	Report Created	BAM Data version *
	04/12/2025	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS18091	Major Projects	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
2		13/11/2025

* 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	3359_Zone_1_Degraded	3359-New England Hills Stringybark-Box Woodland	Zone_1_Degraded	6.07	3	
2	3359_Zone_2_Cultivated	3359-New England Hills Stringybark-Box Woodland	Zone_2_Cultivated	12.97	3	

Assessment Id	Proposal Name
00049575//24/00049576	Tilbuster 2 Solar Farm Extension



BAM Vegetation Zones Report

3	3352_Zone_5_Degraded	3352-Armidale Quartz Hills Stringybark Forest	Zone_5_Degraded	11.35	3	
4	3359_Zone_3_Degraded	3359-New England Hills Stringybark-Box Woodland	Zone_3_Degraded	3.45	2	

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00049575//24/00049576	Tilbuster 2 Solar Farm Extension	05/08/2025
Assessor Name	Report Created	BAM Data version *
	04/12/2025	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS18091	Major Projects	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
2		13/11/2025

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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	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Black-necked Stork	Ephippiorhynchus asiaticus	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Diamond Firetail	Stagonopleura guttata	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Dusky Woodswallow	Artamus cyanopterus cyanopterus	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Eastern False Pipistrelle	Falsistrellus tasmaniensis	3359-New England Hills Stringybark-Box Woodland
Flame Robin	Petroica phoenicea	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest

BAM Predicted Species Report

Greater Broad-nosed Bat	Scoteanax rueppellii	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Grey-headed Flying-fox	Pteropus poliocephalus	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Hastings River Mouse	Pseudomys oralis	3359-New England Hills Stringybark-Box Woodland
Large Bent-winged Bat	Miniopterus orianae oceanensis	3359-New England Hills Stringybark-Box Woodland
Little Eagle	Hieraaetus morphnoides	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Little Lorikeet	Glossopsitta pusilla	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Regent Honeyeater	Anthochaera phrygia	3359-New England Hills Stringybark-Box Woodland
South-eastern Glossy Black-Cockatoo	Calyptrorhynchus lathami lathami	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Speckled Warbler	Chthonicola sagittata	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Spotted Harrier	Circus assimilis	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Spotted-tailed Quoll	Dasyurus maculatus	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Square-tailed Kite	Lophoictinia isura	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Swift Parrot	Lathamus discolor	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Varied Sittella	Daphoenositta chrysoptera	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
White-bellied Sea-Eagle	Haliaeetus leucogaster	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
White-throated Needletail	Hirundapus caudacutus	3359-New England Hills Stringybark-Box Woodland 3352-Armidale Quartz Hills Stringybark Forest
Yellow-bellied Glider	Petaurus australis	3359-New England Hills Stringybark-Box Woodland
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	3359-New England Hills Stringybark-Box Woodland

Threatened species Manually Added

BAM Predicted Species Report

Common Name	Scientific Name
Greater Broad-nosed Bat	Scoteanax rueppellii

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
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Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
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2		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 SAIL	Ecosystem credits
Armidale Quartz Hills Stringybark Forest												
3	3352_Zone_5_Degraded	Not a TEC	31.7	31.7	11.4	PCT Cleared - 75%	High Sensitivity to Gain			2.00		180
											Subtotal	180

New England Hills Stringybark-Box Woodland												
1	3359_Zone_1_Degraded	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	25.9	25.9	6.1	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	98

BAM Credit Summary Report

2	3359_Zone_2_Cultivated	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	15.8	15.8	13	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	128
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BAM Credit Summary Report

4	3359_Zone_3_Degraded	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	7.3	7.3	3.4	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											Subtotal	226
											Total	406

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 SAI	Species credits
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BAM Credit Summary Report

<i>Myotis macropus / Southern Myotis (Fauna)</i>									
3359_Zone_1_D egraded	25.9	25.9	4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	52
3359_Zone_2_C ultivated	15.8	15.8	10.7	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	85
3352_Zone_5_D egraded	31.7	31.7	10.8	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	171
3359_Zone_3_D egraded	7.3	7.3	3.4	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	12
								Subtotal	320
<i>Tyto novaehollandiae / Masked Owl (Fauna)</i>									
3359_Zone_1_D egraded	25.9	25.9	6.1	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	79
3359_Zone_2_C ultivated	15.8	15.8	13	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	False	103
								Subtotal	182

BAM Candidate Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00049575//24/00049576	Tilbuster 2 Solar Farm Extension	05/08/2025
Assessor Name	Report Created	BAM Data version *
	04/12/2025	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS18091	Major Projects	Finalised
Assessment Revision	BOS entry trigger	Date Finalised
2		13/11/2025

* 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
<i>Adelotus brevis</i> - endangered population Tusked Frog population in the Nandewar and New England Tableland Bioregions	No (surveyed)	☒ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Burhinus grallarius</i> Bush Stone-curlew	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Calyptorhynchus lathami lathami</i> South-eastern Glossy Black-Cockatoo	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

BAM Candidate Species Report

<i>Dichanthium setosum</i> Bluegrass	No (surveyed)	☒ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Eucalyptus magnificata</i> Northern Blue Box	No (surveyed)	☒ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Eucalyptus nicholii</i> Narrow-leaved Black Peppermint	No (surveyed)	☒ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Hieraaetus morphnoides</i> Little Eagle	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Litoria piperata</i> Peppered Tree Frog	No (surveyed)	☒ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?

BAM Candidate Species Report

<i>Lophoictinia isura</i> Square-tailed Kite	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Myotis macropus</i> Southern Myotis	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Ninox connivens</i> Barking Owl	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Ninox strenua</i> Powerful Owl	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
<i>Petauroides volans</i> Southern Greater Glider	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☒ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Petaurus norfolcensis</i> Squirrel Glider	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?

BAM Candidate Species Report

<i>Phascolarctos cinereus</i> Koala	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☒ Aug ☐ Sep ☐ Oct ☐ Nov ☒ Dec ☐ Survey month outside the specified months?
<i>Tyto novaehollandiae</i> Masked Owl	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
Austral Toadflax	<i>Thesium australe</i>	Refer to BAR
Beadle's Grevillea	<i>Grevillea beadleana</i>	Habitat constraints
Brush-tailed Rock-wallaby	<i>Petrogale penicillata</i>	Habitat constraints
Caladenia amnicola	<i>Caladenia amnicola</i>	Habitat degraded
Callistemon pungens	<i>Callistemon pungens</i>	Refer to BAR
Eastern Pygmy-possum	<i>Cercartetus nanus</i>	Habitat degraded
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Habitat constraints
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	Habitat constraints
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Habitat constraints
Regent Honeyeater	<i>Anthochaera phrygia</i>	Habitat constraints
Silky Swainson-pea	<i>Swainsona sericea</i>	Refer to BAR
Swift Parrot	<i>Lathamus discolor</i>	Habitat constraints
Tall Velvet Sea-berry	<i>Haloragis exalata</i> subsp. <i>velutina</i>	Refer to BAR



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00049575//24/00049576	Tilbuster 2 Solar Farm Extension	05/08/2025
Assessor Name	Assessor Number	BAM Data version *
	BAAS18091	Current classification (live - default) (82)
Proponent Names	Report Created	BAM Case Status
	04/12/2025	Finalised
Assessment Revision	BOS entry trigger	Assessment Type
2		Major Projects
Date Finalised	* 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.	
13/11/2025		

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	3359-New England Hills Stringybark-Box Woodland



BAM Biodiversity Credit Report (Like for like)

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)

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
3359-New England Hills Stringybark-Box Woodland	White Box - Yellow Box - Blakely’s Red 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	226	0	226
3352-Armidale Quartz Hills Stringybark Forest	Not a TEC			11.4	180	0	180
3352-Armidale Quartz Hills Stringybark Forest	Like-for-like credit retirement options						
	Class	Trading group	Zone	HBT	Credits	IBRA region	
	New England Grassy Woodlands This includes PCT's: 489, 501, 510, 533, 539, 571, 704, 734, 853, 1118, 1332, 3351, 3352, 3358, 3359, 3363	New England Grassy Woodlands >=70% and <90%	3352_Zone_5_Degraded	Yes	180	Armidale Plateau, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	
3359-New England Hills Stringybark-Box Woodland	Like-for-like credit retirement options						
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region	

BAM Biodiversity Credit Report (Like for like)

	White Box - Yellow Box - Blakely's Red 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, 516, 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,		3359_Zone_1_ Degraded	Yes		98	Armidale Plateau, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
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BAM Biodiversity Credit Report (Like for like)

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,	-	3359_Zone_2_C ultivated	Yes	128	Armidale Plateau, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	



BAM Biodiversity Credit Report (Like for like)

433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 516, 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,	-	3359_Zone_3_ Degraded	No	0	Armidale Plateau, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

	South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 516, 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					
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BAM Biodiversity Credit Report (Like for like)

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Myotis macropus / Southern Myotis	3359_Zone_1_Degraded, 3359_Zone_2_Cultivated, 3352_Zone_5_Degraded, 3359_Zone_3_Degraded	28.9	320.00
Tyto novaehollandiae / Masked Owl	3359_Zone_1_Degraded, 3359_Zone_2_Cultivated	19.0	182.00

Credit Retirement Options

Like-for-like credit retirement options

Myotis macropus / Southern Myotis	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Tyto novaehollandiae / Masked Owl	Spp	IBRA subregion
	Tyto novaehollandiae / Masked Owl	Any in NSW



Scattered Tree Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00049575//24/00051692	Tilbuster 2	05/08/2025
Assessor Name	Report Created	BAM Data version *
	04/12/2025	Current classification (live - default) (82)
Assessor Number	BAM Case Status	Date Finalised
BAAS18091	Finalised	13/11/2025
Assessment Revision	Assessment Type	BOS entry trigger
2	Scattered Trees	Major Project

* 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.

Scattered Trees

PCT code	PCT name	No. of trees	Species	DBHOB Category	Contain hollows	Class	Assessment required
3359	New England Hills Stringybark-Box Woodland	2	Eucalyptus blakelyi	>= 20cm and <50cm	False	2	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species

Scattered Tree Report

3359	New England Hills Stringybark-Box Woodland	5	Eucalyptus blakelyi	>= 50cm	False	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
3359	New England Hills Stringybark-Box Woodland	1	Eucalyptus blakelyi	>= 50cm	True	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
3359	New England Hills Stringybark-Box Woodland	1	Eucalyptus bridgesiana	>= 20cm and <50cm	False	2	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
3359	New England Hills Stringybark-Box Woodland	1	Eucalyptus bridgesiana	>= 50cm	True	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
3359	New England Hills Stringybark-Box Woodland	1	Eucalyptus melliodora	>= 20cm and <50cm	False	2	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
3359	New England Hills Stringybark-Box Woodland	7	Eucalyptus melliodora	>= 50cm	False	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00049575//24/00051692	Tilbuster 2	05/08/2025
Assessor Name	Report Created	BAM Data version *
	04/12/2025	Current classification (live - default) (82)
Assessor Number	BAM Case Status	Date Finalised
BAAS18091	Finalised	13/11/2025
Assessment Revision	BOS entry trigger	Assessment Type
2	Major Project	Scattered Trees

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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
Black Falcon	Falco subniger
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis
Black-necked Stork	Ephippiorhynchus asiaticus
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae
Dusky Woodswallow	Artamus cyanopterus cyanopterus
Eastern False Pipistrelle	Falsistrellus tasmaniensis
Flame Robin	Petroica phoenicea
Little Eagle	Hieraaetus morphnoides
Little Lorikeet	Glossopsitta pusilla
Regent Honeyeater	Anthochaera phrygia
South-eastern Glossy Black-Cockatoo	Calyptorhynchus lathami lathami
Speckled Warbler	Chthonicola sagittata
Spotted Harrier	Circus assimilis
Swift Parrot	Lathamus discolor
Varied Sittella	Daphoenositta chrysoptera
White-bellied Sea-Eagle	Haliaeetus leucogaster
White-throated Needletail	Hirundapus caudacutus

BAM Predicted Species Report

Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris
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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
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BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00049575//24/00051692	Tilbuster 2	05/08/2025
Assessor Name	Report Created	BAM Data version *
	04/12/2025	Current classification (live - default) (82)
Assessor Number	BAM Case Status	Date Finalised
BAAS18091	Finalised	13/11/2025
Assessment Revision	BOS entry trigger	Assessment Type
2	Major Project	Scattered Trees

* 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.

Scattered Trees Credit Requirement

Class	Contains hollows	Number of trees	Ecosystem credits
3359-New England Hills Stringybark-Box Woodland			
2	False	2.0	1
3	False	5.0	4
3	True	1.0	1
2	False	1.0	1
3	True	1.0	1
2	False	1.0	1
3	False	7.0	5
			14
			14

Species credits for threatened species

Nil



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00049575//24/00051692	Tilbuster 2	05/08/2025
Assessor Name	Assessor Number	BAM Data version *
	BAAS18091	Current classification (live - default) (82)
Proponent Names	Report Created	Date Finalised
	04/12/2025	13/11/2025
Assessment Revision	BOS entry trigger	Assessment Type
2	Major Project	Scattered Trees
BAM Case Status	* 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.	
Finalised		

Potential Serious and Irreversible Impacts

Nil

Additional Information for Approval

PCTs With Customized Benchmarks
No Changes

Ecosystem Credit Summary

Assessment Id	Proposal Name
00049575//24/00051692	Tilbuster 2

BAM Biodiversity Credit Report (Like for like)

PCT	TEC	HBT Cr	No HBT Cr	Credits
3359-New England Hills Stringybark-Box Woodland	White Box - Yellow Box - Blakely's Red 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	12	14

Credit classes for 3359	Like-for-like options				
	TEC	Trading group	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	-	Yes	2	Armidale Plateau, Bundarra Downs, Coffs Coast and Escarpment, Eastern Nandewars, Ebor Basalts, Glenn Innes-Guyra Basalts, Macleay Gorges, Moredun Volcanics, Round Mountain, Walcha Plateau, Wongwibinda Plateau and Yarrowyck-Kentucky Downs. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	No	12	Armidale Plateau, Bundarra Downs, Coffs Coast and Escarpment, Eastern Nandewars, Ebor Basalts, Glenn Innes-Guyra Basalts, Macleay Gorges, Moredun Volcanics, Round Mountain, Walcha Plateau, Wongwibinda Plateau and Yarrowyck-Kentucky Downs. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
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Appendix E Staff qualifications and experience

Name	Title	Qualifications / experience	Role in BDAR v2
Bianca Heinze	Technical Lead – Biodiversity NSW	A seasoned biodiversity specialist with over 15 years of experience in biodiversity assessment and post-approval management, with a strong foundation in terrestrial ecology. Since 2008, she has contributed to a wide range of infrastructure, energy, and residential projects, from small-scale developments to complex, large-scale initiatives.	Technical lead, co-author
Gabrielle Rose	Senior Ecologist	An accredited BAM Assessor with experience applying NSW and Commonwealth legislation across the price sector, local and state government. She has a strong knowledge of flora and fauna of the NSW north coast, south-east Queensland and adjacent bioregions	BAM assessor, co-author, field lead
Dominic De Lorenzo	Graduate Ecology	Dominic is a Graduate Ecologist who holds a degree in Environmental Sciences. With a background in bush regeneration, he brings a broad skill set across the ecology and environmental management space.	Co-author, field
Julie Gooding	Technical Lead – Biodiversity NSW	Julie is an accredited BAM assessor based in Wagga Wagga with eight years of experience in vegetation management and assessment through the preparation of Biodiversity Assessments, Biodiversity Development Assessment Reports, Bushland Regeneration Management Plans, Flora Assessments and Targeted Weed Surveys.	Review

Appendix F Agency/consent authority consultation

F.1 CPHR

This BDAR v2 has been prepared in response to written feedback on BDAR v1, received from CPHR dated 16 July 2025, which is attached overleaf. Following receipt of feedback, several additional rounds of consultation were undertaken to discuss and negotiate on key issues such as avoidance of BC Act Box Gum Woodland TEC. These are outlined in Table 13-2 below.

Table 13-2 Consultation Log - Conservation Programs, Heritage and Regulation, NSW DCCEEW (CPHR)

Date	Format / present	Key discussion points
11 September 2025	Teams meeting CPHR representatives: Bill Larkin, Don Owner	Discussed appropriate vehicles for demonstrating protection of avoided TEC Discussed perimeter fencing being a barrier – looked at alternative configurations
16 October	Teams meeting CPHR representatives: Bill Larkin, Don Owner, Dimitri Young	Noted fencing recommendations taken on board Discussed measures to minimise impact Avoidance areas good to see but need more information on proposed regeneration area to work out if sufficient protection Need to check BDAR v2 update approach also
17 October	Letter to CPHR from NGH	Provided calculations and maps for BC Act Box Gum Woodland TEC in subject land, in development footprint and in regeneration area.
23 October	Letter to NGH from CPHR	Provided alternative regeneration site that would have best biodiversity outcome. This approach was accepted by proponent.
23 October	Phone call Lisa King (GHD) – Dimitri Young (CPHR)	BDAR v2 update approach discussed to ensure document complies with BAM and legislation.



Your ref: SSD-69799460
Our ref: DOC25/408266-9

Department of Planning, Housing and Infrastructure
Locked Bag 5022
PARRAMATTA NSW 2150

Attention: Ms Rita Hatem

Dear Ms Hatem

Subject: Tilbuster 2 Solar Farm EIS (SSD-69799460)

Thank you for your referral in the NSW Major Projects Portal dated 21 May 2025 seeking advice from the Conservation Programs, Heritage and Regulation Group (CPHR) of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) on the Environmental Impact Statement (EIS) for the Tilbuster 2 Solar Farm project.

We have reviewed the exhibited EIS against the Secretary's Environmental Assessment Requirements (SEARs) provided by the Department of Planning, Housing and Infrastructure to the proponent on 15 July 2024.

In our opinion the EIS does not meet the Secretary's requirements for biodiversity.

In summary, the key issues are as follows:

- The development footprint is required to encompass all components of the proposed development.
- Opportunities to further avoid and minimise impacts on the White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW Western Slopes, South East Corner and Riverina Bioregions Critically Endangered Ecological Community (box-gum woodland CEEC) require further consideration.
- While 100 per cent of highest condition box-gum woodland CEEC will be retained, 48 per cent of the low-moderate condition will be cleared. Given the highly cleared nature of this community, additional retention of at least the low moderate condition woodland should be required in order to avoid a serious and irreversible impact (SAIL) on this CEEC. The consent authority should also consider Additional and Appropriate measures in determining the application.

A summary of our assessment and advice is provided in **Attachment A**. Our assessment and advice on SAIL entities is provided in **Attachment B**. Detailed comments and other issues which require further consideration are provided in **Attachment C**.

CPHR requests that where a Condition of Approval requires plans relating to biodiversity to be developed, that the Condition of Approval specify that the plans need to be developed in consultation with CPHR.

If you have any questions about this advice, please do not hesitate to contact Mr Dimitri Young, Senior Team Leader Planning North East, CPHR, via dimitri.young@environment.nsw.gov.au or 6659 8272.

Yours sincerely



GABRIELLE PIETRINI
Director North East
Conservation Programs, Heritage and Regulation Group

16 July 2025

Enclosures:

Attachment A: CPHR Assessment Summary for Tilbuster 2 Solar Farm Environmental Impact Statement (SSD-69799460)

Attachment B: Serious and Irreversible Impacts – Advice on SAI Entities

Attachment C: Detailed comments for Tilbuster 2 Solar Farm Environmental Impact Statement (SSD-69799460)

ATTACHMENT A

CPHR Assessment Summary for Tilbuster 2 Solar Farm Environmental Impact Statement (SSD-69799460)

In preparing this advice CPHR has reviewed the following documents:

- Tilbuster 2 Solar Farm Biodiversity Development Assessment Report, Ecosure November 2024 (BDAR)
- Tilbuster 2 Solar Farm Environmental Impact Assessment, GHD March 2025 (EIS)
- Tilbuster 2 Solar Farm Landscape and Visual Impact Assessment, GHD March 2025 (LVIA)

Key issues raised by CPHR are summarised below. These issues and recommendations are detailed in **Attachment C**, along with other minor issues, all of which need to be addressed prior to determination of the State Significant Development (SSD) application.

Key Assessment Issues

<i>The development footprint is required to include all components of the proposed development</i>	The assessor has not considered all components of the proposed development when determining the extent of the development footprint used in the BDAR. Recommended action: • The BDAR description of the proposed development footprint be reviewed and revised to clearly demonstrate that all components of the development have been considered in accordance with section 2(3) of the Biodiversity Assessment Method 2020 (BAM) and the remaining sections of the BDAR and the BAM Calculator (BAM-C) amended as required.
<i>Extent and Timing</i>	Pre-determination

<i>The BAM scattered trees streamlined assessment module has not been correctly applied</i>	The assessor has not considered all the scattered trees within the development footprint when applying the BAM scattered trees streamlined assessment model and has not aligned the plant community type (PCT) recorded within the scattered tree zone with the threatened ecological community (TEC) associated with the PCT. Recommended action: • The scattered tree assessment in the BDAR be revised to include all scattered trees within the proposed development footprint. • The BAM-C case for scattered trees be updated to include all scattered trees within the proposed development footprint and to acknowledge PCT 3359 is associated with a TEC.
<i>Extent and Timing</i>	Pre-determination

<i>Survey effort applied for some candidate fauna species does not meet the requirements of the BAM</i>	The survey effort for threatened forest owls and koala (<i>Phascolarctos cinereus</i>) does not meet the requirements specified in the threatened biodiversity data collection (TBDC) or survey guidelines published by the Department. Recommended action: • Targeted surveys for threatened forest owls and koala on the subject land be completed in accordance with survey method requirements specified in the TBDC and survey guidelines published by the Department.
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	Figure 10 of the BDAR be revised to show the location and extent of spotlighting survey transects within each vegetation zone (VZ) on the subject land.
<i>Extent and Timing</i>	Pre-determination

<i>The extent of the species polygon for southern myotis has been underestimated</i>	The species polygon prepared for the southern myotis (<i>Myotis macropus</i>) does not meet the species polygon requirements specified in the BAM threatened bat survey guidelines published by the Department. Recommended action: - The species polygon and BAM-C calculations for southern myotis be revised to consider PCTs within 200m of all suitable waterbodies for the species on or within 200m of the subject land. - Page 41 of the BDAR be revised to acknowledge both PCT 3352 and PCT 3359 are associated with southern myotis in the TBDC.
<i>Extent and Timing</i>	Pre-determination

<i>The barrier effects of security fencing on habitat connectivity require further consideration</i>	The assessor has not considered the potential barrier effects of proposed perimeter fencing on fauna access to the riparian zone and other native vegetation remnants to be retained on the development site. Recommended action: Proposed perimeter fencing be placed as close as possible to the solar arrays and internal roads to minimise isolation of retained native vegetation and optimise potential for fauna movement along the Duval Creek riparian zone.
<i>Extent and Timing</i>	Pre-determination

<i>Opportunities to further avoid and minimise impacts on the box-gum woodland CEEC require further consideration</i>	More opportunities may exist on the subject land to avoid areas of higher condition box-gum woodland CEEC by relocating solar panel infrastructure from higher condition areas within VZ 1 into areas of lower condition within VZ 2, and to further minimise impacts by protecting these remnants via conservation mechanisms. Recommended actions: - The proponent investigates opportunities to relocate solar panel infrastructure from higher condition remnants of box-gum woodland CEEC in VZ 1 to lower condition remnants in VZ 2. - The BDAR be revised to include protection of avoided CEEC remnants on the subject land through an appropriate mechanism, such as a Conservation Agreement under the <i>Biodiversity Conservation Act 2016</i> (BC Act).
<i>Extent and Timing</i>	Pre-determination

<i>The project in its current form is likely to have a SAIL on the box-gum woodland CEEC</i>	There is a real chance the project will contribute significantly to the box-gum woodland CEEC becoming extinct by continuing its rapid decline (Principle 1) and further reducing its ecological function on the subject land and adjoining areas (Principle 2). Recommended action: The applicant be required to retain additional areas of at least the low moderate condition woodland, or
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	The Consent Authority consider requiring the applicant to identify and implement Additional and Appropriate measures to compensate for the loss of the box-gum woodland CEEC, should the project be approved.
<i>Extent and Timing</i>	Pre-determination

ATTACHMENT B SERIOUS AND IRREVERSIBLE IMPACTS – ADVICE ON SAI ENTITIES

SAI Entity: box-gum woodland CEEC

	Steps	CPHR Recommendation
1	Identify relevant entities at risk of SAI	The BDAR includes a SAI assessment for the box-gum woodland CEEC. The project is expected to impact 49.78 ha of CEEC, consisting of 44.11 ha of woody vegetation and 5.67 ha of non-woody vegetation. The candidate SAI entities assessed in the BDAR accord with the BAM. The assessor has provided sufficient consideration and explanation to justify the SAI entity selected for further assessment.
2	Evaluation of the current extinction risk of the impacted entities	The box-gum woodland CEEC meets the following SAI principles as set out in clause 6.7 of the Biodiversity Conservation Regulation 2017: Principle 1 – the ecological community is currently in a rapid decline, and Principle 2 – the ecological community is subject to very high environmental degradation or disruption of biotic processes or interactions. The Conservation Assessment for Box Gum Woodland CEEC¹ states: <i>“available data shows over 90% of the original extent of this ecological community has been cleared. Of the remaining area, a large proportion of it has been modified and occurs as trees over a predominantly exotic understorey. The Committee judge that less than 5% of the original extent of the ecological community remains of sufficient condition and size* to be included in the listed ecological community, having undergone a decline of 95% or more”.</i> The accredited assessor has evaluated the current extinction risk appropriately.
3	Detail measures taken to avoid impacts on the entity	The total extent of box-gum woodland CEEC on the subject land is 116.54 ha. The project design is expected to retain 66.74 ha (57.27 per cent) of CEEC on site, which would consist of: • 26.64 ha (100 per cent) of the highest condition CEEC, • 22.62 ha (52.05 per cent) of the low-moderate condition CEEC,

¹ NSW Threatened Species Scientific Committee (2020) *Conservation Assessment of White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland*. NSW Government.
<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Scientific-Committee/Determinations/2020/white-box-yellow-box-final-determination-conservation-assessment.pdf?la=en&hash=F8E09AABE537A9AB6CBBBD7A38BCE44956C0D986#:~:text=Summary%20of%20Conservation%20Assessment,under%20Criteria%20A3%20and%20D3.>

	Steps	CPHR Recommendation
		• 10.31 ha (30.68 per cent) of the low condition CEEC, and • 7.17 ha (55.79 per cent) of the lowest condition non-woody CEEC. CPHR considers the proponent's efforts to avoid woody areas of the CEEC could be expanded, to avoid a higher proportion of the low-moderate condition CEEC either by reducing the overall development footprint or by relocating components of the project into lower condition remnants of the CEEC on the subject land.
4	Evaluate the impacts from the proposal	The project would directly impact 49.78 ha of the CEEC, including: • 44.11 ha of woodlands (i.e. woodland and open woodland), and • 5.67 ha of grasslands. These impacts are likely to increase the extinction risk of the CEEC by further reducing its extent and contributing to degradation and disruption of biotic processes.
5	Provide advice on whether the proposal is likely or unlikely to result in SAI	There is a real chance the project will contribute to the CEEC's continued rapid decline (Principle 1) and will further reduce ecological function of this community on the subject land and adjoining areas (Principle 2).

ATTACHMENT C Detailed comments for Tilbuster 2 Solar Farm Environmental Impact Statement (SSD-69799460)

The BDAR in Appendix J of the EIS does not meet the Secretary's requirements for biodiversity.

Specific comments on the BDAR and related sections in the EIS are set out below.

The BDAR is to meet all the requirements specified in the BAM

Appendix K of the BAM requires the assessor to submit to the consent authority the following assessment components either in or with the BDAR:

- all report maps as separate jpeg files
- plot field data (excel format)
- plot field data sheets
- species polygon map in jpeg format
- individual digital shapefiles of:
 - subject land boundary
 - assessment area
 - cadastral boundary of subject land
 - areas of native vegetation cover
 - landscape features
 - PCT boundaries within subject land
 - TEC boundaries within subject land
 - vegetation zone boundaries within the subject land
 - floristic vegetation survey and vegetation integrity plots
 - alternative and final proposal footprint (where relevant)
 - direct and indirect impact zones
 - extent of TECs at risk of an SAI within the subject land
 - parcels of land proposed for land-based conservation measures.

The assessor has not included these components either in the BDAR or uploaded as supporting information in the BOAMS case.

Recommended action:

1. The BDAR and/or BOAMS case be updated to provide all assessment components specified in Appendix K of the BAM.

The development footprint needs to include all components of the proposed development

In section 1.3.2 of the BDAR the assessor has described the development footprint as the land directly impacted by the proposal, including the solar array, perimeter fence, access roads, transmission line footprint and known temporary construction areas. The assessor then states in section 1.3.4 of the BDAR that a temporary construction compound and laydown area would be located outside the development footprint but within the development site.

The proposed temporary construction compound and laydown area identified in Figure E.1 of the EIS represents a known temporary construction area, which must be included in the development footprint assessed in the BDAR (refer to Figure 1 below).

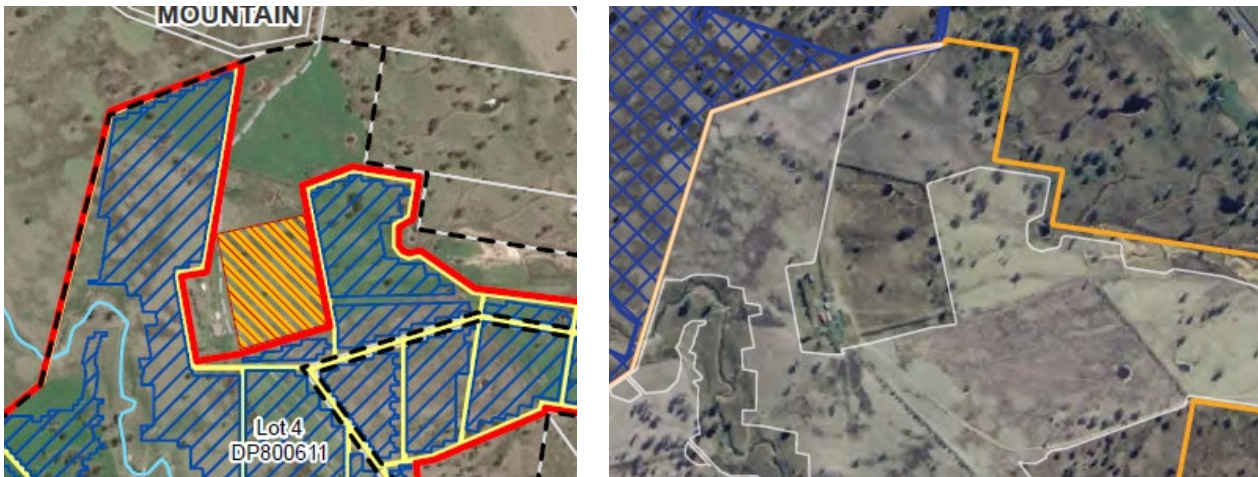


Figure 1: The proposed temporary construction compound (left image - orange hatching) has not been included in the BDAR development footprint (right image – white polygon).

The proposed development footprint shown in Figure 1 of the BDAR does not include all sections of the proposed perimeter fence illustrated in the master plan contained in Appendix 2 of the BDAR (refer to Figure 2 below). The perimeter fence will result in direct impact for construction and long-term indirect impact on retained ecological communities within the fenced area by restricting access to some fauna species required for propagule exchange and maintenance of vegetation structure (e.g. macropods).

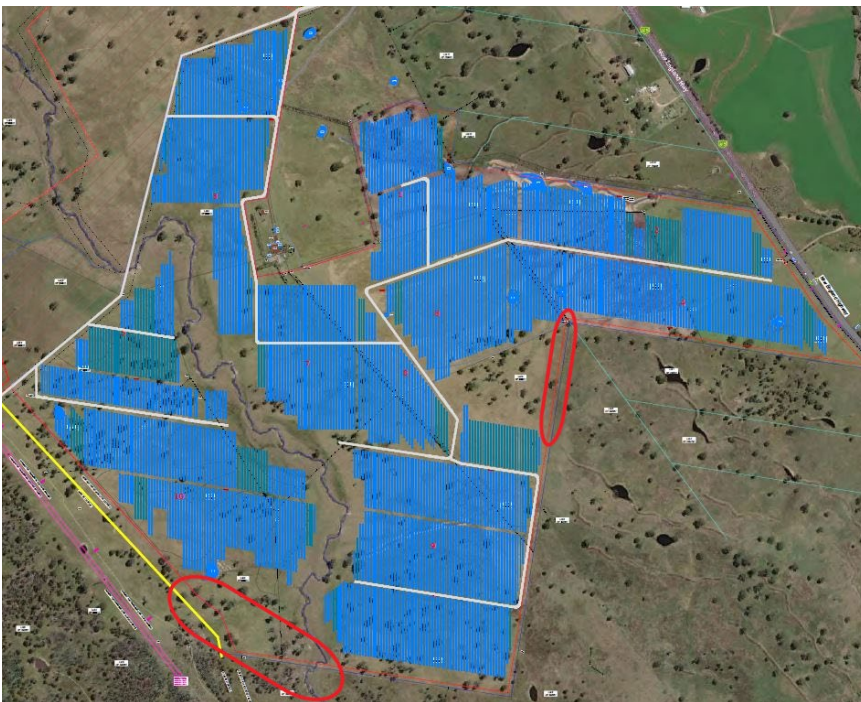


Figure 2: Sections of proposed security fencing not included in the development footprint assessed in the BDAR (broken red lines within the red polygons).

Reference is made in section 6.12.3 of the EIS to a proposed 10 m bushfire asset protection zone (APZ) to be established along the western side of the development footprint (between the proposal and the bushfire prone land), which is to be maintained as an inner protection area. It is unclear if the proposed APZ has been included in the development footprint and impacts assessed in the BDAR.

Reference is made to installing erosion controls in section 6.2.4 of the EIS as part of a soil and water management plan. There is no mention of erosion controls in the development footprint

description in the BDAR. Therefore, it is unclear if the development footprint assessed in the BDAR has included the location of any proposed erosion controls (e.g. sediment control basins).

Recommended action:

2. The BDAR description of the proposed development footprint be reviewed and revised to clearly demonstrate that all components of the development have been considered in accordance with section 2(3) of the BAM and the remaining sections of the BDAR and the BAM-C amended as required.

The BAM scattered trees streamlined assessment module has not been correctly applied

The assessor has used the scattered trees streamlined assessment module in Appendix B of the BAM to assess the impact of clearing scattered trees on the subject land as defined in section B.1 of the BAM. However, the assessor has not included several scattered trees on the subject land east of BAM plots 7 and 11 (refer to Figure 3 below).



Figure 3: Scattered trees on the subject land (in red circles) not included in the scattered trees streamlined assessment.

In the BAM-C, the assessor has correctly assigned PCT 3359 to the scattered tree vegetation zone. However, the assessor has selected “not a TEC” for the vegetation zone in the BAM-C, which is incorrect given PCT 3359 is associated with the box-gum woodland CEEC.

Recommended actions:

3. The scattered tree assessment in the BDAR be revised to include all scattered trees within the proposed development footprint.
4. The BAM-C case for scattered trees be updated to include all scattered trees within the proposed development footprint and to acknowledge PCT 3359 is associated with a TEC.

Reporting of habitat constraints is inconsistent between candidate species

The assessor has indicated habitat constraints for the large-eared pied-bat (i.e. cliffs and/or within 2 km of rocky areas containing caves, overhangs, escarpments, outcrops or crevices, or within 2 km of old mines or tunnels) are not present on the subject land (refer to Figure 4 below). However, when identifying habitat constraints for *Grevillea beadleana*, the assessor has indicated in the BAM-C that cliffs and escarpments, which also represent habitat constraints for the large-eared pied bat, are present on or within 200m of the subject land.

<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	☐ Cliffs ☐ Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels
<i>Dichanthium setosum</i> Bluegrass	--
<i>Eucalyptus magnificata</i> Northern Blue Box	--
<i>Eucalyptus nicholii</i> Narrow-leaved Black Peppermint	--
<i>Grevillea beadleana</i> Beadle's Grevillea	☒ Cliffs ☒ or within 200m Escarpments ☒ or within 200m Rocky areas ☒ or within 200m

Figure 4: Inconsistent reporting of habitat constraints between candidate species in the BAM-C.

Recommended action:

5. The BDAR and BAM-C be reviewed and amended to clarify whether cliffs, escarpments or rocky areas containing caves occur on or within 2km of the subject land.

Survey effort applied for some candidate fauna species does not meet the requirements of the BAM

Targeted surveys for three threatened forest owls – barking owl (*Ninox connivens*), powerful owl (*Ninox strenua*) and masked owl (*Tyto novaehollandiae*) – were only undertaken for three consecutive nights. Survey method advice contained in the TBDC specifies surveys be conducted over at least six nights, preferably spread across multiple weeks.

Although acoustic recorders may be used to survey for forest owls in some circumstances, the assessor's use of acoustic recorders was not targeted at detecting forest owls and was not done in accordance with the requirements specified in the TBDC.

The sampling density of the koala SAT survey within western and northern patches of VZ 2 on the subject land was not consistent with section 4.1.3 of the koala BAM survey guide published by the Department.

The route taken when performing spotlighting transects to detect koalas and other nocturnally active candidate fauna species has not been shown on Figure 10 of the BDAR. The length and location of spotlighting transects must be illustrated in the BDAR to demonstrate adequacy of survey effort, particularly with respect to targeted koala survey.

Recommended actions:

6. Targeted surveys for threatened forest owls and koalas on the subject land be completed in accordance with survey method requirements specified in the TBDC and survey guidelines published by the Department.
7. Figure 10 of the BDAR be revised to show the location and extent of spotlighting survey transects within each VZ on the subject land.

The extent of the species polygon for southern myotis has been underestimated

Table 1 of the threatened bat survey guidelines published by the Department requires the species polygon for southern myotis to align with PCTs associated with the species on the subject land that are within 200 m of mapped suitable waterbodies on or within 200m of the subject land. The assessor has not considered suitable habitat for the species within 200m of several waterbodies, which are located on or within 200m of the subject land (refer to Figure 5 below).



Figure 5: Suitable foraging waterbodies for southern myotis on or within 200 m of the subject land but not considered by the assessor when preparing the species polygon.

The assessor has indicated on page 41 of the BDAR that southern myotis is not associated with either PCT 3352 or PCT 3359. However, the TBDC lists both PCTs as being associated with southern myotis.

Recommended actions:

8. The species polygon and BAM-C calculations for southern myotis be revised to consider PCTs within 200m of all suitable waterbodies for the species on or within 200m of the subject land.
9. Page 41 of the BDAR be revised to acknowledge both PCT 3352 and PCT 3359 are associated with southern myotis in the TBDC.

The barrier effects of security fencing on habitat connectivity have not been considered

In section 5.1.4 of the BDAR, the assessor has indicated north-south habitat connectivity would be maintained by providing a movement corridor along the Duval Creek riparian zone. However, the assessor has not considered the potential barrier effects of proposed perimeter fencing on fauna access to the riparian zone and other native vegetation remnants to be retained on the development site.

If habitat connectivity is not considered in the design and location of perimeter fencing, then long-term indirect impacts may arise on the floristic composition and structure of remnant vegetation retained within the development site (refer to Figure 6 below) by the fencing restricting access for

some fauna species that exchange propagules and maintain vegetation structure (e.g. macropods).

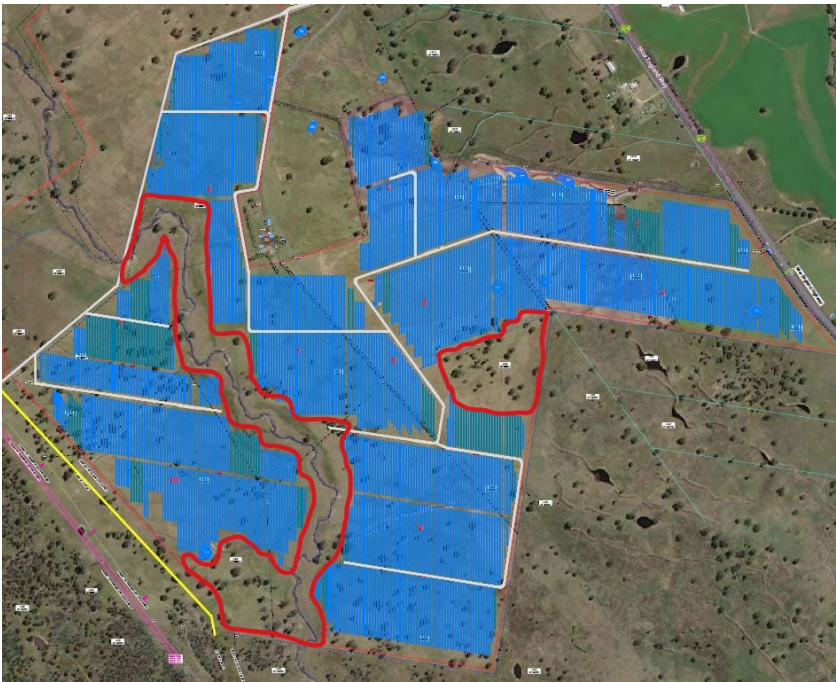


Figure 6: The main areas of native vegetation (in red polygons) retained within the development site, which would be isolated by the location of proposed perimeter fencing.

These indirect impacts of perimeter fencing can be reduced by realigning the fence as close to the solar arrays and internal roads as possible to minimise isolation of retained native vegetation and maintain fauna movement along the Duval Creek riparian zone (refer to Figure 7 below).

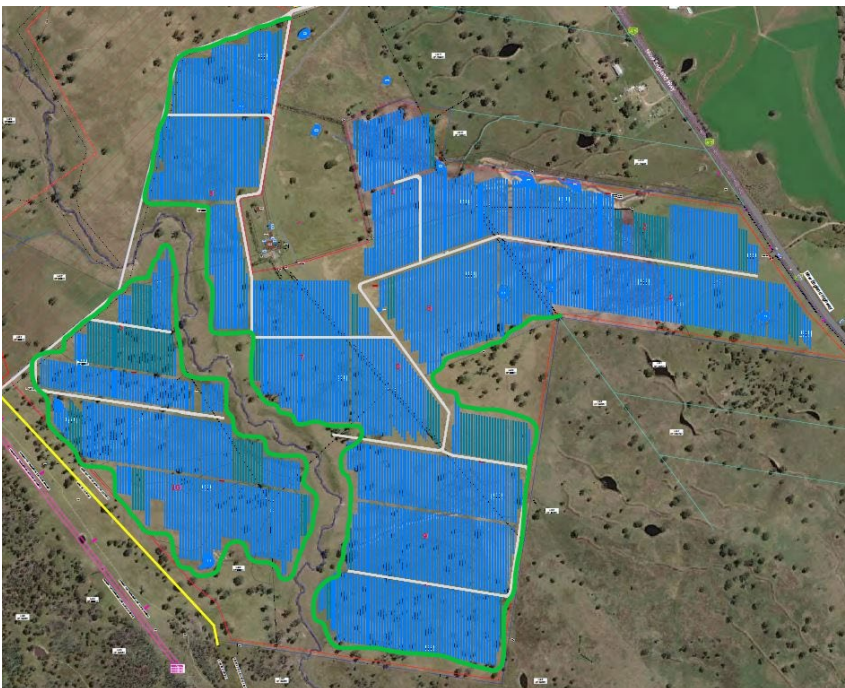


Figure 7: Indicative re-alignment of perimeter fencing (green lines) closer to the solar arrays and internal roads to minimise isolation of retained remnants of native vegetation.

10. Proposed perimeter fencing be placed as close as possible to the solar arrays and internal roads to minimise isolation of retained native vegetation and optimise potential for fauna movement along the Duval Creek riparian zone.

In section 5.1.4 of the BDAR, the assessor has indicated biodiversity constraints have been avoided or minimised in the project design by locating solar panel arrays and ancillary facilities where the native vegetation is in the poorest condition.

It would also be appropriate to further minimise impacts by establishing conservation mechanisms to ensure areas of box-gum woodland CEEC proposed to be avoided and retained on the subject land are protected in-perpetuity.

11. The proponent investigates opportunities to relocate solar panel infrastructure from higher condition remnants of box-gum woodland CEEC in VZ 1 to lower condition remnants in VZ 2.
12. The BDAR be revised to include protection of avoided CEEC remnants on the subject land through an appropriate mechanism, such as a Conservation Agreement under the *Biodiversity Conservation Act 2016*.

A nest box management plan will be required for minimising impacts on displaced hollow-dependent fauna

The proposed mitigation measures listed in Table 14 of the BDAR for minimising impacts on displaced resident fauna have not included installing alternative sheltering resources for displaced hollow-dependent fauna. Typically, projects involving rapidly removing large numbers of hollow-bearing trees (HBTs) include, as a mitigation measure, the proponent preparing and implementing a nest box management plan (NBMP), which aims to provide at least temporary sheltering resources for displaced hollow-dependent fauna. A NBMP is usually informed by the hollow-dependent fauna species known or likely to occur on the subject land and the location, abundance and types of hollows likely to be removed and retained on site.

Recommended action:

13. The BDAR be revised to include preparation of a NBMP as a mitigation measure to minimise the potential impacts of HBT removal on displaced hollow-dependent fauna.

The BDAR contains insufficient detail about the proposed koala food tree plantings

The assessor has recommended in the executive summary of the BDAR that *“the loss of koala food trees (>20cm diameter at breast height) and impacts to koala habitat be compensated through compensatory planting of koala habitat or feed tree species”*. However, the BDAR does not contain any estimates of koala food trees to be removed or compensatory tree plantings. The BDAR also does not illustrate where on the subject land the tree plantings would be established. Such information is required by the consent authority to determine the feasibility of the proposed mitigation measure.

Recommended action:

14. The BDAR be revised to include estimates of koala food trees to be removed and planted as part of the project, along with a map showing the proposed tree planting locations.

The scope and implementation timing of management plans requires clarification

Table 16 of the BDAR lists several proposed management plans, including a biodiversity management plan (BMP), pest and weed management plan (PWMP), ecological restoration plan (ERP), landscape plan (LP), and operational management plan (OMP).

The plans contain overlapping elements of biodiversity management, revegetation, restoration, weed control, and monitoring (refer to Table 1 below).

Table 1: Overlap of components between the proposed management plans.

Management measure	BMP	PWMP	ERP	LP	OMP
Revegetate development site	yes		yes	yes	
Restore Duval Ck. Riparian zone	yes		yes	yes	
Monitoring and maintenance of restoration areas			yes		yes
Weed control	yes	yes	yes		
Weed monitoring		yes			yes

There is also significant overlap in the proposed timing of implementation of the various plans throughout the project stages (refer to Table 2 below).

Table 2: Overlap of implementation timing between the proposed management plans.

Management plan	Pre-construction	Construction	Operations	Decommissioning
BMP	yes	yes		yes
PWMP	yes	yes	yes	yes
ERP	yes	yes	yes	yes
LP		yes		
OMP			yes	

The overlapping management actions and implementation timing between the various management plans is confusing and could result in one or more management actions being overlooked or incorrectly implemented.

Recommended actions:

15. Section 6.5 of the BDAR be revised to include a clear comparative summary of the proposed biodiversity-related management plans in terms of their aims, actions, timing and responsibility for implementation.
16. The BDAR be revised to include a map identifying which areas within the development site are proposed to be revegetated and restored in accordance with the various biodiversity-related management plans.

There is inconsistency between the aims and expectations of proposed CEEC management

One of the aims of the adaptive management strategy stated in section 6.6 of the BDAR is to improve the condition and ecological function of retained vegetation (including TECs) on the subject land. Yet, the assessor has indicated in section 7.1 of the BDAR that the condition of retained remnants of the box-gum woodland CEEC on the development site is likely to remain unchanged.

Recommended action:

17. The BDAR be revised to ensure the stated aims of the proposed biodiversity management are consistent with the expected outcomes, particularly with respect to the future condition of remnant box-gum woodland CEEC retained on the development site.

F.2 BOS Helpdesk

Emails between NGH and the BOS Helpdesk follow overleaf.

From: [Gabrielle Ryan](#)
To: [Bianca Heinze](#)
Subject: DPE-8364 Q species polygon for owls
Date: Tuesday, 30 September 2025 9:47:37 AM

Reply above this line.

Gabrielle Ryan commented:

Hi [Bianca Heinze](#)

Thank you for your patience, I confirm that the previous response sent to you on 25 September (and included again below) is applicable. If you have any further questions, please don't hesitate to get back to us.

thanks gabrielle

Hi [Bianca Heinze](#)

Thank you for your enquiry. Please see the Department's response below:

The species polygon for forest owls must include all vegetation zones that meet **both** of the following criteria:

1. **within 800 m** of the location of a detected owl, **and**
2. containing a **living or dead tree** with a **hollow >20 cm diameter** that occurs **>4 m above the ground**.

This means that only vegetation zones that are within the 800 m buffer **and** contain the habitat feature (a suitable hollow-bearing tree) are included in the species polygon.

If a vegetation zone that contains the required habitat feature **partially intersects** the 800 m buffer, then the **entire vegetation zone** should be included in the polygon.

Vegetation zones outside the 800 m buffer are **not** included, even if they contain suitable hollow-bearing trees.

Adequate evidence and justification for identifying suitable habitat must be provided in the BAR to support the delineation of the species polygon.

Kind Regards

The BOS Help Desk Team.

Gabrielle Ryan resolved this as Done.

How would you rate your experience? Please tell us why you chose this rating

Very poor Poor Average Good Very good

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If you are having trouble viewing a response from the BOS Help Desk Team, please try the following troubleshooting measures:

1. Refresh the [customer portal](#) to view any new messages from our team.
2. Check your junk/spam mailbox for the email with our response and link to the customer portal.

Biodiversity Offset Scheme Help Desk Team

BOS Help Desk Portal <https://boshelpdeskdpsw.atlassian.net/servicedesk/customer/portals>

BOS Help Desk Mailbox BOS.helpdesk@environment.nsw.gov.au

Enquiry Line 1800 931 717 (Tuesday to Thursday from 10am to 4pm)

www.dccew.nsw.gov.au

I acknowledge the traditional custodians of the land and pay respects to Elders past and present. I also acknowledge all the Aboriginal and Torres Strait Islander staff working with NSW Government at this time.

Please consider the environment before printing this email.

This is shared with Bianca Heinze, Lisa Bunyan, Gabrielle Rose, and Julie Gooding.

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