



Our Ref: DOC21/45532

Your Ref: SSD 9619

Planning and Assessment Group
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2150

Attention: Mr Javier Canon

Dear Mr Canon

RE: Tilbuster Solar Farm – SSD 9619 – Response to Submissions - Revised Biodiversity Development Assessment Report

Thank you for advising, via the Major Projects Portal, that the revised Biodiversity Development Assessment Report (BDAR) has been submitted in relation to the Tilbuster Solar Farm, seeking comments from the Biodiversity and Conservation Division (BCD) of the Biodiversity, Conservation and Science Directorate in the Environment, Energy and Science Group of the Department of Planning, Industry and Environment. I appreciate the opportunity to provide ongoing input.

We wish to reiterate that this is our first detailed review of the BDAR, given our advice dated 27 October 2020 at the Environmental Impact Statement exhibition stage, that the exhibited BDAR was invalid and required updating and re-lodgement to comply with the *Biodiversity Conservation Act 2016* (BC Act).

The BCD understands that the BDAR was re-lodged as part of the Response to Submissions in January 2021 and has now been provided to us for review.

The BCD has reviewed the re-lodged BDAR dated January 2021 to ensure its consistency with the Biodiversity Offsets Scheme (BOS) the Biodiversity Assessment Method (BAM 2017) and the BC Act.

In addition, the Australian Government Department of Agriculture, Water and the Environment has determined the proposed Tilbuster Solar Farm is a controlled action in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Therefore, the BCD also has responsibility, in this instance, as a result of the effect of the Bilateral Agreement between the NSW and Australian Governments, to ensure the biodiversity assessment has considered the appropriate Matters of National Environmental Significance (MNES), as listed by the EPBC Act, that will be affected by the proposal and in accordance with the Environmental Assessment Requirements provided by the Australian Government.

Our review of the re-lodged BDAR included a site visit by BCD officers Mr Krister Waern and Ms Rachel Lonie on 8 December 2020.

We have reviewed all the documents supplied and advise that several issues are apparent, including the assessment of candidate species credit species, the preparation of koala species polygons and the need for additional impact mitigation measures. These issues are discussed in detail in **Attachment 1** to this letter.

In addition, the BCD has undertaken an assessment of those MNES that will be significantly affected by the development, namely White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland, the koala and the Greater Glider. This assessment is also located in **Attachment 1**.

In summary, the BCD recommends that:

1. Further justification should be provided in the BDAR for excluding the following species credit species as candidate species:

Flora:

- Small Snake Orchid (*Diurus pedunculata*) – (NSW and Commonwealth listed)
- Tall Velvet Sea-berry (*Haloragis exalta* subsp. *velutina*) - (NSW and Commonwealth listed)
- Aromatic peppercress (*Lepidium hyssopifolium*) – (NSW and Commonwealth listed)
- Hawkweed (*Picris evae*) – (NSW and Commonwealth listed)
- Silky Swainson-pea (*Swainsona sericea*) - (NSW listed only)
- Austral Toadflax (*Thesium australe*) – (NSW and Commonwealth listed)

Fauna:

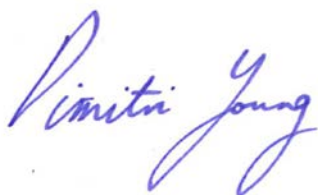
- Tusked Frog (*Adelotus brevis*) – endangered population (Tusked Frog population in the Nandewar and New England Tableland Bioregions) – (NSW listed only)
- Glandular Frog (*Litoria subglandulosa*) – (NSW listed only)

2. Should the species listed in recommendation 1 above be subsequently identified as candidate species credit species, their presence (or absence) within the subject land must be determined by either targeted survey, expert report or assumed presence, as per Section 6.5.1.1 of BAM 2017.
3. Any amendments to the list of candidate species must be incorporated into the BDAR, along with the BAM-Calculator (BAM-C).
4. The BAM must be used to assess the Greater Glider, as per the requirements of the bilateral agreement and the advice provided by the DAWE to the proponent and the BCD. As such, given the Greater Glider has been detected on the development site, it too must be included as a candidate species credit species in the BDAR and the BAM-C.
5. The BDAR must document the details of all targeted threatened plant surveys undertaken, including the techniques adopted, as well as the survey effort and timing, rather than simply stating that the surveys were consistent with the survey guidelines. In addition, where appropriate, the location of field traverses should be illustrated on a map and included within the BDAR.
6. The Koala species polygon must be revised in the BDAR so that it is mapped in accordance with the advice from the BAM Support Team set out in Attachment 1 to this letter.
7. A species polygon must also be prepared for the Greater Glider to enable an offset to be calculated in the BAM-C.
8. Further consideration should be given to avoiding impacts on high quality stands of the critically endangered ecological community White Box Yellow Box Blakely's Red Gum Woodland that have a vegetation integrity score of at least 33.

9. The development footprint should be revised to avoid the severing of connectivity at the location illustrated by the red circle in Figure 2 of Attachment 1 to this letter.
10. The consent authority should determine that it is likely the proposal will have a Serious and Irreversible Impact on the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community.
11. If the consent authority determines that it is likely the proposal will have a Serious and Irreversible Impact, then additional and appropriate measures must be developed and adopted, as per Section 7.16(3) of the BC Act, to minimise the Serious and Irreversible Impacts of the development on this CEEC, which could include:
 - a. modifying the proposal to further avoid impacts on Vegetation Zones 1 and 5 by reducing the development footprint to avoid these areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community; and
 - b. actively managing additional areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community on the development site outside the development footprint to substantially improve the condition of this vegetation community; and
 - c. protecting the areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community on the development site outside the development footprint through an appropriate mechanism, such as a Conservation Agreement under the BC Act.
12. The BMP should also include:
 - a. a requirement for the proponent to actively manage those areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community proposed to be retained on the development site to substantially improve the condition and connectivity of this native vegetation and assist in minimising biodiversity losses. This may be achieved by increasing the quality of this vegetation and other native vegetation present, including the extent and quality of habitat available for threatened species impacted by the proposal, particularly koalas, southern myotis and greater gliders. Rehabilitation should also consider including measures to exclude stock grazing and enhance connectivity with adjoining native vegetation.
 - b. consideration to protecting the above rehabilitated areas through an appropriate mechanism, such as a Conservation Agreement under the BC Act.
13. If the list of candidate species credit species, or the species polygons for the koala vary, then any changes must be documented in a revised BDAR along with data amendments entered to the BAM-C.
14. An offset requirement must also be determined for the Greater Glider using the BAM-C.
15. An offset requirement must be determined where indirect impacts cannot be avoided or adequately minimised, as described at Section 2.4.1 of the BAM Operational Manual - Stage 2, noting that Box 2 (page 18) of the manual provides an example of how to calculate biodiversity credits for indirect impacts.
16. The parts of the BDAR relevant to EBPC listed threatened species and communities must be amended as required, once recommendations 1-14 above have been addressed.
17. The revised and amended BDAR and BAM-C addressing recommendations 1-15 above should be provided to the BCD for review.

If you have any questions about this advice, please do not hesitate to contact Ms Nicky Owner, Senior Conservation Planning Officer, at nicky.owner@environment.nsw.gov.au or 6659 8254.

Yours sincerely



19 February 2021

DIMITRI YOUNG
Senior Team Leader Planning, North East Branch
Biodiversity and Conservation

Enclosure: Attachment 1 - Detailed BCD Comments – Tilbuster Solar Farm (SSD – 9619) Biodiversity Assessment

Attachment 1: Detailed BCD Comments – Tilbuster Solar Farm (SSD – 9619) – Response to Submissions – Revised Biodiversity Development Assessment Report

The Biodiversity Conservation Division (BCD) has undertaken a comprehensive review of the Biodiversity Development Assessment Report (BDAR) dated January 2021 prepared in relation to the proposed Tilbuster Solar Farm. The BDAR has been prepared in accordance with the requirements of the Biodiversity Assessment Method 2017 (BAM) by the Accredited Person, Mr Brendon True.

The BCD has reviewed the BDAR to ensure its consistency with the Biodiversity Offsetting Scheme (BOS) and the *Biodiversity Conservation Act 2016* (BC Act). In addition, given the Australian Government Department of Agriculture, Water and the Environment (DAWE) has determined the proposed Tilbuster Solar Farm is a controlled action in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the BCD also has responsibility of ensuring the biodiversity assessment has considered the appropriate Matters of National Environmental Significance (MNES), as listed by the EPBC Act, and in accordance with the Environmental Assessment Requirements provided by the Australian Government.

The BCDs review of the BDAR is consistent with the *Agreement between the Commonwealth of Australia and the State of NSW relating to the Environmental Assessment* (henceforth referred to as the Bilateral Agreement).

A. Biodiversity Assessment Methodology 2017 – Review under the BC Act

Stage 1 – Biodiversity Assessment

Assessment of landscape context.

Our review of the BDAR indicates the ‘Assessment of landscape context’ is appropriate.

Assessing native vegetation, threatened ecological communities and vegetation integrity.

The assessment of native vegetation, threatened ecological communities and vegetation integrity indicates that a total of three Plant Community Types (PCTs) are present on site:

- PCT 567 – Broad-leaved Stringybark – Yellow Box shrub/grass open forest of the New England Tablelands Bioregion.
- PCT 575 Tenterfield Woollybutt – Silvertop Stringybark open forest of the New England Tablelands Bioregion.
- PCT 704 – Blakely’s Red Gum – Yellow Box grassy open forest or woodland of the New England Tablelands Bioregion.

PCT 567 and PCT 704, of which 126 hectares will be cleared to enable the development, are associated with the BC Act listed critically endangered ecological community White Box Yellow Box Blakely’s Red Gum Woodland. Nested within the 126 hectares proposed for removal is approximately 15.3 hectares of the EPBC Act critically endangered White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland.

The assessment of the vegetation on site, including areas exempt from assessment, is appropriate. However, it is very likely the vegetation integrity scores generated for each vegetation zone are significantly reduced given the severity of the drought during which the vegetation data were collected.

Assessing the habitat suitability of threatened species

Based on the information presented in *Table 4-1 – Candidate species credit species requiring assessment*, and *Table 4-3 – Species credit species excluded based on habitat quality* in the BDAR, it appears that several species credit species were excluded from consideration due to the degraded nature of habitat, as a direct result of the persistent drought experienced during the period in which the candidate species assessment was undertaken.

The exclusion of species due to the likely temporary reduction in habitat quality or die-off due to drought is incorrect. Rather, it is appropriate to ascertain whether the development site would be likely to support habitat when optimal climatic and seasonal conditions are present.

During the site inspection undertaken by the BCD in December 2020, we observed that the drought had ceased with the return of more typical weather conditions and habitat features at the development site, including flows in Duval Creek and its tributaries.

Also, excluding species by indicating their habitats are degraded should be based on specific details about the presence/absence and condition of the habitat constraints and microhabitats on the site in the context of the species' ecology and information about species records.

Further justification is required in the BDAR for excluding several of the species credit species as candidate species.

BCD Recommendations:

1. Further justification should be provided in the BDAR for excluding the following species credit species as candidate species:

Flora:

- Small Snake Orchid (*Diurus pedunculata*) – (NSW and Commonwealth listed)
- Tall Velvet Sea-berry (*Haloragis exalta* subsp. *velutina*) - (NSW and Commonwealth listed)
- Aromatic peppercress (*Lepidium hyssopifolium*) – (NSW and Commonwealth listed)
- Hawkweed (*Picris evae*) – (NSW and Commonwealth listed)
- Silky Swainson-pea (*Swainsona sericea*) - (NSW listed only)
- Austral Toadflax (*Thesium australe*) – (NSW and Commonwealth listed)

Fauna:

- Tusked Frog (*Adelotus brevis*) – endangered population (Tusked Frog population in the Nandewar and New England Tableland Bioregions) – (NSW listed only)
 - Glandular Frog (*Litoria subglandulosa*) – (NSW listed only)
2. Should the species listed in recommendation 1 above be subsequently identified as candidate species credit species, their presence (or absence) within the subject land must be determined by either targeted survey, expert report or assumed presence, as per Section 6.5.1.1 of BAM 2017.
 3. Any amendments to the list of candidate species must be incorporated into the BDAR, along with the BAM-Calculator (BAM-C).

Assessing MNES that are not listed on the BC Act

Under the EPBC Act bilateral agreement between the Australian and NSW Governments all EPBC Act listed threatened species and communities must be assessed under the BAM, including those that are not listed on the BC Act. This has been confirmed by the DAWE and the BCD BAM Support Team.

The BDAR does not include an assessment of the Greater Glider, which was recorded on the development site. This species is listed as a threatened species under the EPBC Act but is not listed as a threatened species under the BC Act. The BDAR must be amended to apply the BAM to the greater glider.

BCD Recommendation:

4. The BAM must be used to assess the Greater Glider, as per the requirements of the bilateral agreement and the advice provided by the DAWE to the proponent and the BCD. As such, given the Greater Glider has been detected on the development site, it too must be included as a candidate species credit species in the BDAR and the BAM-C.

Targeted surveys.

In reviewing the BDAR we have noted that the description of the field survey effort for threatened plants states that searches were undertaken '*via parallel field traverses in accordance with the NSW Guide to Surveying Threatened Plants*'.

We are of the view the targeted survey for bluegrass (*Dicanthium setosum*) was undertaken appropriately.

BCD Recommendation:

5. The BDAR should document the details of all targeted threatened plant surveys undertaken, including the techniques adopted, as well as the survey effort and timing, rather than simply stating that the surveys were consistent with the survey guidelines. In addition, where appropriate, the location of field traverses should be illustrated on a map and included within the BDAR.

Threatened species polygons.

The BDAR indicates the habitat of three species credit species, the Koala, Pale-Headed Snake and Southern Myotis, will be affected by the proposed development, (in addition to the EPBC Act listed Greater Glider).

The BCD has identified an inconsistency in the total area of Koala habitat to be impacted by the proposed development.

On page 73 of the BDAR, the assessor has determined that 12.6 hectares of Koala habitat will be removed by the proposal, yet on page 81, the assessor states that a total area of 27.4 hectares of habitat will be removed. The lesser value of 12.6 hectares has formed the basis of the Koala species polygon for which an offset has been calculated.

The inconsistency between the total area of Koala habitat must be resolved. This would be best achieved by revising the species polygon, taking into consideration Section 6.4 of the BAM and the advice from the BCD BAM Support Team replicated in italics below:

While koalas are currently listed as a dual credit species in the Threatened Biodiversity Data Collection, they should be treated as a species credit species for the purposes of the BAM.

Potential koala habitat is any vegetation community containing one or more koala use trees. Refer to the regionally relevant koala use tree lists in the [Koala Habitat Information Base Technical Guide](#) (tables A.4 – A.12). Determine which koala modelling region (KMR) the subject land is located within – the KMR boundaries are available on the [SEED portal](#). Where the subject land is located near a KMR border, both koala use tree lists should be applied.

The koala species polygon should be mapped to the extent of the PCT (containing one or more koala use trees, as detailed above) in which presence was confirmed. Connectivity

between PCTs with confirmed koala presence must be considered in the overall extent of the species polygon, with justification for your decisions provided in the BAR.

BCD Recommendations:

6. The Koala species polygon must be revised in the BDAR so that it is mapped in accordance with the advice from the BAM Support Team.
7. A species polygon must also be prepared for the Greater Glider to enable an offset to be calculated in the BAM-C.

The species polygons for the pale-headed snake and southern myotis appear to have been prepared appropriately.

Stage 2 – Impact Assessment (biodiversity values and prescribed impacts)

Avoiding impacts on native vegetation and habitat

The BDAR demonstrates that efforts have been made to avoid larger, more intact areas of wooded vegetation, to the extent that 54.7 hectares of the higher quality vegetation will be retained on site. In addition, we also recognise that the site has been selected for the construction of a solar farm due to the proximity of existing power transmission line easements.

Nonetheless, the site does contain native vegetation, including the critically endangered grassy white box woodland and the proposal will impact approximately 128 ha of this vegetation, including 23.2 ha with a vegetation integrity score of 33 or more, indicating very high vegetation condition.

While the aerial photograph below, obtained from the Department's ArcGIS Image Catalogue, demonstrates the degraded nature of many parts of the site, it also demonstrates the overall poor condition of native vegetation across the broader landscape.

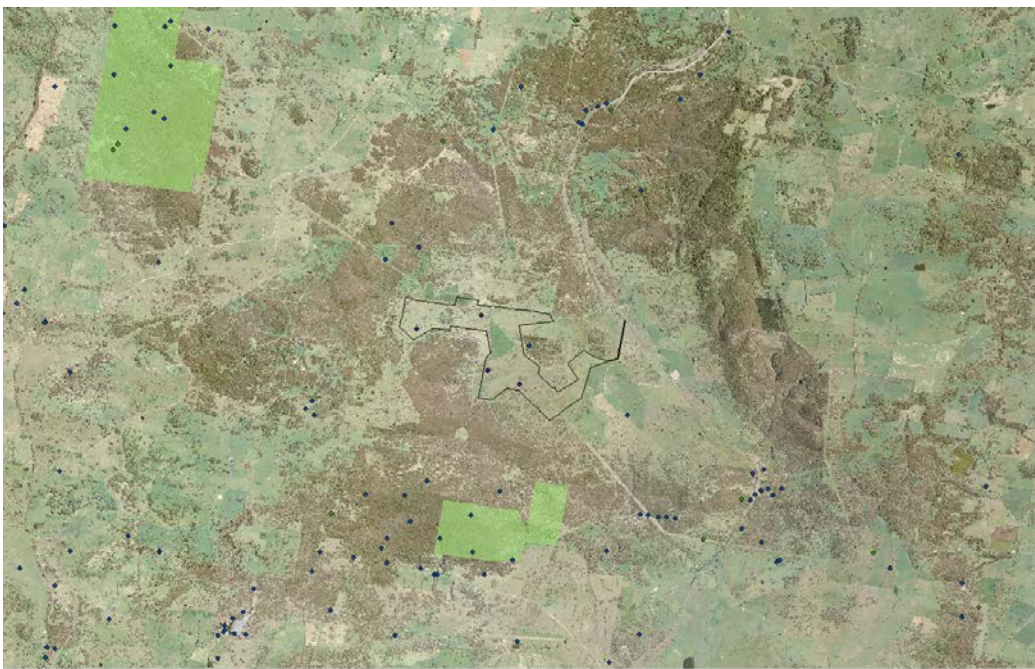


Figure 1: Aerial photograph of development site and locality

The BDAR also indicates that a small part of the development footprint will be located across what appears to be a north-south vegetated corridor (indicated by the red circle on the image below) which may be utilised by koalas, which are known to occur on site. Vegetation to the north of the footprint comprises the highest quality stand of grassy box gum woodland on the development site, which should be connected via habitat linkages to the south where other stand of native vegetation occur.

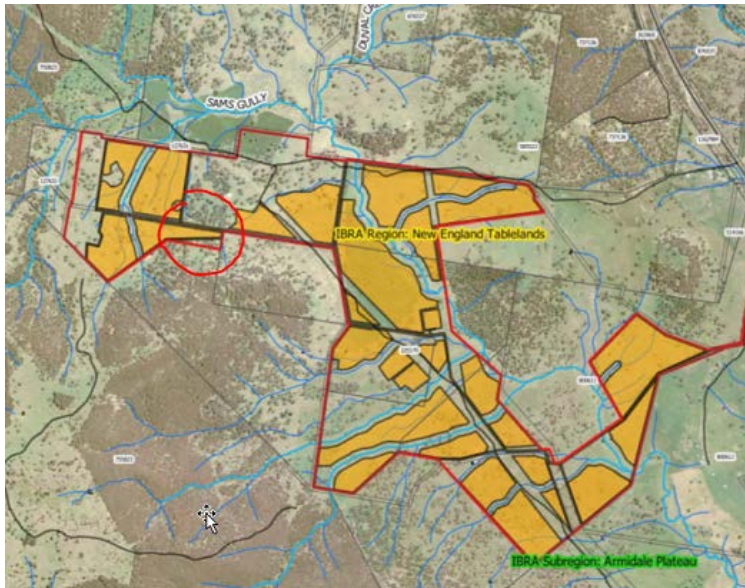


Figure 2: Location (red circle) of potential habitat linkage

Further discussion of the need for measures to minimise impacts on the box gum grassy woodland is included under the sub-heading Serious and Irreversible Impacts below.

BCD Recommendations:

8. Further consideration should be given to avoiding impacts on high quality stands of the critically endangered ecological community White Box Yellow Box Blakely's Red Gum Woodland that have a vegetation integrity score of at least 33.
9. The development footprint should be revised to avoid the severing of connectivity at the location illustrated by the red circle in Figure 2 above.

Assessment of impacts

We are of the view that the assessment of impacts is appropriate, including the assumption that vegetation integrity will be reduced to zero in areas affected by the construction and operation of the solar farm.

Serious and Irreversible Impacts

We note that the critically endangered ecological community White Box Yellow Box Blakely's Red Gum Woodland occurring on site is listed as a potential Serious and Irreversible Impact (SAIL) entity.

As outlined in the *Guidance to assist a decision-maker to determine a serious and irreversible impact* (OEH 2019), this community has been listed as a potential SAIL entity due to Principles 1 and 2.

In accordance with Principle 1, this community is listed as critically endangered due to its significant reduction in geographic extent (greater than or equal to 90% reduction) since European settlement.

Further, under Principle 2 this community is listed as critically endangered due to the remaining 90% of its extent experiencing very high environmental degradation and a very large disruption of biotic processes.

This means that about 1% of the original extent of the community is unlikely to be degraded.

The development site contains 71.1 ha of this critically endangered ecological community as a woodland with very high vegetation integrity and the proposal involves clearing 23.2ha of this, comprising 33% of the highest quality woodland on the site.

We have reviewed the SAIL assessment in the BDAR, undertaken in accordance with Section 10.2.2.1 (a) to (i) of the BAM. Our review indicates that the information provided is incomplete or inaccurate and does not clearly answer each question (a) to (i) or provide justifiable context to the loss of the 23.2ha of high quality critically endangered woodland vegetation. Our comments on each response in this part of the BDAR are set out below:

- (a) 49.5 hectares of this CEEC will be retained on site, much of which has an intact canopy. There is no proposal outlined within the BDAR as to how this retained vegetation will be protected and actively managed to sustain or improve its condition.
- (b) The information presented in the table on Page 97 of the BDAR provides an adequate response to this part of the BAM.
- (c) This step is irrelevant as no threshold has been developed for this CEEC and the response in the BDAR is adequate.
- (d) While the BDAR provides an estimated extent of the CEEC within 1,000 and 10,000 hectares of the development site, there is no indication of the condition of this vegetation. The assessor must determine, as accurately as possible, the condition of extant patches of this vegetation in the required areas and document the results in the BDAR. Based on our examination of aerial photographs of the surrounding areas, it appears that the condition of much of the extant vegetation within those areas is likely to be poor to very poor.
- (e) The information presented for this part has extrapolated from information available in relation to an adjoining sub-region. The assessor is required to determine, as accurately as possible, the area and condition of extant patches of this vegetation across the Armidale Plateau sub region and document the results in the BDAR. Based on our examination of an aerial photograph of this IBRA Sub-region, there appears to be little extant native vegetation remaining and most of what remains appears highly degraded.
- (f) The assessor is required to determine, as accurately as possible, the extent of the CEEC in the NSW reserve system in the IBRA bioregion and subregion. While we acknowledge that there is a paucity of data to easily determine this, we suggest examining plans of management for the reserves located within these areas to determine if the CEEC occurs within those reserves.
- (g) We disagree that with the assessor's view that no characteristic or functionally important species would be lost as result of the development. The removal of large mature trees, nectar and other feeding resources, foraging and roosting habitat, along with the identified number of hollows to be lost, for example, is likely to be of significance, as well as the loss of contiguity and connectivity and a reduction in patch size. The development site is known habitat for the koala, southern myotis and greater glider, all of which are threatened and facing decline, in part from the ongoing piecemeal clearing of grassy white box woodlands.
- (h) We are of the view that any patch of this CEEC in good condition is of importance, particularly given the significant reduction in extent and condition of this community across its range. Whilst we recognise that the vegetation across the development site is relatively fragmented and somewhat degraded, consideration should be given to making efforts to avoid higher condition patches of vegetation and enhancing connectivity, habitat and vegetation condition in all retained areas of the CEEC across the development site.
- (i) While we recognise that offsets are proposed to compensate for the loss of this vegetation, this is not a satisfactory response to this part. The assessor should examine the targeted strategies for managing this community, developed as part of the Saving our Species program and that can be accessed via the threatened species profile for this community on our website at www.environment.nsw.gov.au. Consideration should then be given to adopting some of these strategies to assist in the recovery (rehabilitation) of the community within the development site.

Based on the above analysis, the BCD concludes that it is likely the proposal will have a Serious and Irreversible Impact on the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community.

BCD Recommendations:

10. The consent authority should determine that it is likely the proposal will have a Serious and Irreversible Impact on the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community.
11. If the consent authority determines that it is likely the proposal will have a Serious and Irreversible Impact, then additional and appropriate measures must be developed and adopted, as per Section 7.16(3) of the BC Act, to minimise the Serious and Irreversible Impacts of the development on this CEEC, which could include:
 - a. modifying the proposal to further avoid impacts on Vegetation Zones 1 and 5 by reducing the development footprint to avoid these areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community; and
 - b. actively managing additional areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community on the development site outside the development footprint to substantially improve the condition of this vegetation community; and
 - c. protecting the areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community on the development site outside the development footprint through an appropriate mechanism, such as a Conservation Agreement under the BC Act.

Mitigating and Managing Impacts

The BDAR lists a range of measures to be adopted to minimise harm during clearing operations. This includes the preparation of a Biodiversity Management Plan (BMP).

While we support these measures, given we are of the view that the development will have a SAIL on the box gun grassy woodland CEEC, the BMP must also address measures to actively manage this critically endangered vegetation, in all condition states, in the areas avoided by the proposal on the development site.

BCD Recommendations:

12. The BMP should also include:
 - a. a requirement for the proponent to actively manage those areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community proposed to be retained on the development site to substantially improve the condition and connectivity of this native vegetation and assist in minimising biodiversity losses. This may be achieved by increasing the quality of this vegetation and other native vegetation present, including the extent and quality of habitat available for threatened species impacted by the proposal, particularly koalas, southern myotis and greater gliders. Rehabilitation should also consider including measures to exclude stock grazing and enhance connectivity with adjoining native vegetation.
 - b. consideration to protecting the above rehabilitated areas through an appropriate mechanism, such as a Conservation Agreement under the BC Act.

Offset requirements

As already indicated, we are of the view that the vegetation assessment has been conducted appropriately and as such, the ecosystem credit obligation calculated based on the data entered into the BAM-C by the accredited person is accurate.

Although the species credits generated for pale headed snake and southern myotis are likely to be accurate, the total number of species credits generated in relation to the project may vary depending on the outcome of the revision of the list of candidate species credit species, and amendments to the koala species polygons.

However, where indirect impacts in biodiversity cannot be avoided or adequately minimised, the identified indirect impacts should be offset by calculating and retiring biodiversity credits.

BCD Recommendation:

13. If the list of candidate species credit species, or the species polygons for the koala vary, then any changes are to be documented in a revised BDAR along with data amendments entered to the BAM-C.
14. An offset requirement must also be determined for the Greater Glider using the BAM-C.
15. An offset requirement must be determined where indirect impacts cannot be avoided or adequately minimised, as described at Section 2.4.1 of the BAM Operational Manual - Stage 2, noting that Box 2 (page 18) of the manual provides an example of how to calculate biodiversity credits for indirect impacts.
16. The BCD requests an opportunity to review any such amendments to the BDAR and BAM-C.

B. Environment Protection and Biodiversity Conservation Act 1999 – Review under the Bilateral Assessment

The BCD has assessed those EPBC Act listed threatened species and ecological communities identified as being likely to be significantly affected by the proposed Tilbuster Solar Farm. The assessment has been undertaken in accordance with the Bilateral Agreement between the state of NSW and the federal government, using the BAM, and the Commonwealth Department of Agriculture, Water and Environment's (DAWE) Secretary's Environmental Assessment Requirements (SEARs).

1. Identification of Matters of National Environmental Significance (MNES)

- (a) *Confirm whether all of the EPBC Act listed threatened species and communities that occur on the project site, or in the vicinity are identified in the BDAR. Note which species and/or communities have not been identified.*

The EPBC Act listed threatened species and communities that are likely to be affected by the construction and operation of the Tilbuster Solar Farm as generated from the Environmental Reporting Tool (ERT) have been identified in the Environmental Impact Statement (EIS) and the BDAR. The following Matters of Environmental Significance (MNES) were determined as having potential to be impacted by the Tilbuster project:

- White Box – Yellow Box – Blakely's Red Gum – Grassy Woodland and Derived Native Grassland (Critically Endangered)
- Koala (*Phascolarctos cinereus*) (Vulnerable)
- Greater Glider (*Petauroides volans*) (Vulnerable)

The BDAR also documents the required assessment for bluegrass (*Dicanthium setosum*). Despite appropriately timed targeted surveys, this species was not recorded within the development site. As such, the proposal is unlikely to have a significant impact on this threatened plant.

(b) Comment on whether the Biodiversity Assessment Method has been applied to all EPBC Act listed threatened species and communities that occur on the project site or in the vicinity.

The BAM has been applied to the White Box – Yellow Box – Blakely's Red Gum – Grassy Woodland and Derived Native Grassland, and to the Koala (*Phascolarctos cinereus*).

However, the BAM has not been applied to the Greater Glider (*Petauroides volans*). Under the EPBC Act bilateral agreement between the Australian and NSW Governments all EPBC Act listed threatened species and communities must be assessed under the BAM, including those that are not listed on the BC Act. This has been confirmed by the DAWE and the BCD BAM Support Team.

The BDAR does not include an assessment of the Greater Glider, which was recorded on the development site. This species is listed as a MNES but is not listed as a threatened species under the BC Act. The BDAR must be amended to apply the BAM to the greater glider.

Further, several EPBC Act listed threatened plants require reassessment to determine whether they are candidate species credit species for the purposes of the BAM. This is due to their exclusion from assessment based on degraded habitat resulting from the persistent drought and insufficient details on the presence and extent of habitat constraints and microhabitats in the context of the species' ecology and records.

The BCD has advised that this exclusion was inappropriate and should be reconsidered given the development site would be likely to support habitat for them under optimal seasonal and climatic conditions. The BCD observed that the drought had ceased with the return of more typical weather conditions and habitat features at the development site during our site inspection in December 2020, including flows in Duval Creek and its tributaries.

Further justification is required in the BDAR for excluding the following EPBC Act listed threatened plant species credit species:

- Small Snake Orchid (*Diurus pedunculata*)
- Tall Velvet Sea-berry (*Haloragis exalta* subsp. *velutina*)
- Aromatic peppergrass (*Lepidium hyssopifolium*)
- Hawkweed (*Picris euae*)
- Austral Toadflax (*Thesium australe*)

(c) In the circumstance where there are EPBC Act listed species that are not addressed by the BAM (ie migratory species) comment on whether these species have been assessed in accordance with the SEARs and provide references to where the assessment information is detailed in the EIS.

As stated on page 63 of the BAM, 'five listed migratory species were returned from the protected matters report. None of these species are considered likely to occur at the site on a regular basis or rely on the habitats present'.

However, our review of the EPBC Act Protected Matters Report indicates 12 species are predicted to occur. Out of these 12, we are of the view that the following species may occur within the development site, on occasion, based on their known distribution and habitat preferences:

- Fork-tailed Swift
- White-throated Needletail
- Black-faced Monarch
- Satin Flycatcher
- Rufous Fantail.

The proponent should re-examine the likely impact of the development on these migratory species.

- (d) *Verify that the proponent has expressed a statement about the potential impact ie likely significant, low risk of impact, not occurring, for each threatened species and community protected by the EPBC Act referred to in 1(a). Note which species and/or communities have not been addressed in this manner.*

An assessment of significance has been prepared for the White Box – Yellow Box- Blakely's Red Gum – grassy woodland and derived native grassland, the Koala and the Greater Glider, and documented at *Appendix G-I of the BDAR*. The assessor has determined that a significant impact is likely on the grassy woodland and the Koala.

In addition, the BDAR also documents the required assessment for Bluegrass (*Dicanthium setosum*). Despite appropriately timed and targeted surveys, this species was not recorded within the development site. As such, the proposal has been determined to be unlikely to have a significant impact on this threatened plant.

- (e) *Identify where further information from the proponent is critical to the assessment of MNES.*

The following further information is required from the proponent for the assessment of MNES:

- The BAM has not been applied to the Greater Glider (*Petauroides volans*), so the BDAR does not include an assessment of the greater glider, which was recorded on the development site. The BDAR must be amended to apply the BAM to the greater glider.
- The Koala species polygon must be revised in the BDAR so that it is mapped in accordance with the advice from the BAM Support Team.
- Further justification is required in the BDAR for excluding the following EPBC Act listed threatened plant species credit species as candidate species under the BAM:
 - Small Snake Orchid (*Diurus pedunculata*)
 - Tall Velvet Sea-berry (*Haloragis exalta* subsp. *velutina*)
 - Aromatic peppergrass (*Lepidium hyssopifolium*)
 - Hawkweed (*Picris evae*)
 - Austral Toadflax (*Thesium australe*)

2. Assessment of Relevant Impacts

All EPBC Act listed species and/or communities that the Commonwealth consider would be significantly impacted (as noted in the referral documentation) should be assessed and offset. These are referred to as relevant impacts.

- (a) *Verify [by ticking the following boxes]:*

- ✓ *The nature and extent of all the relevant impacts has been described*
Measures to avoid and mitigate have been described
An appropriate offset for any residual adverse significant impact has been determined.

- (b) *Note if information in relation to any of these boxes has not been provided for any relevant EPBC Act listed species and communities.*

The BCD has concluded that it is likely the proposal will have a Serious and Irreversible Impact on the NSW listed critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community, which includes an area of EPBC Act listed grassy woodland.

As such, we have recommended that consideration must be given to modifying the proposal to further avoid impacts on Vegetation Zones 1 and 5 by reducing the development footprint to avoid these areas.

We have also recommended that additional and appropriate measures must be developed and adopted in relation to this community, including the protection and management of retained vegetation on site.

In relation to the Koala, the BCD has identified an inconsistency in the total area of koala habitat to be impacted by the proposed development which must be resolved.

As such, the Koala species polygon must be revised in the BDAR so that it accurately maps the extent of the vegetation types in which Koala use trees occur and/or the vegetation types in which the Koala was recorded.

(c) There may be listed threatened species and communities for which the proponent will claim that the impact will be not significant in accordance with the EPBC Act Significant Impact Guidelines. Please provide advice for cases where BCD disagrees with this finding.

The proponent accepts the proposal will have a significant impact on grassy woodland and the Koala and is likely to have a significant impact on the Greater Glider. We agree with this determination.

(d) Provide references to where specific lists or tables are detailed in the EIS.

Chapter 5 (page 62) – Matters of National Environmental Significance

Section 5.2 (page 62) - Threatened Ecological Communities

Section 5.3 (page 62) - Threatened Species.

Section 7.5 (page 80) – Impacts to Matters of National Environmental Significance

Section 10.1.3 (page 102) - Offsets required under the EPBC Act

Appendix G – EPBC Assessment of Significant Impact.

Table 1 Impact Summary Relevant EPBC Act –listed Ecological Communities (refer to section 3)

A	B	C	D	E		F	G
EPBC Act -listed EEC	Y/N	PCTs	Y/N	Ha	Credits	Comment	Relevant page numbers in the BDAR
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Y	PCT 567 – Broad-leaved Stringybark – Yellow Box shrub/grass open forest of the New England Tablelands Bioregion.	Y	78	422	The 15.3 ha identified as the EPBC Act listed TEC occurs within PCTs 567 and 704.	Pp 62, 80, 102 App G.2
		PCT 704 – Blakely's Red Gum – Yellow Box grassy open forest or woodland of the New England Tablelands Bioregion.		48.5	185		

- (A) **List** the relevant EPBC Act listed ecological communities that will be significantly impacted in accordance with the referral documentation.
- (B) **Verify** that there is evidence in the BDAR that listed EEC and species habitat has been mapped in accordance with relevant listing guidelines (Yes/No).
Proponents are required by the SEARs to ensure that EPBC-listed communities are mapped in accordance with EPBC Act listing criteria. It is important that any derived native grassland components of an EPBC listed EEC are included in the mapping of native vegetation extent.
- (C) **List** the Plant Community Types (PCTs) associated with the ecological communities in accordance with the BAM.
- (D) **Confirm** that the identification of PCTs has been correct (Yes/No) and comment if not correct.
- (E) **Record** the area of impact (ha) and credits required.
- (F) **Comment** on the analysis of the impacts in relation to the nature and extent of the impact and whether or not the EIS includes an analysis of the direct and indirect impacts to the EEC. Note whether further information might be required.
- (G) **Cite** relevant page numbers for details provided the EIS and Appendices for each EEC

Table 2 Impact Summary Relevant EPBC Act –listed Species (refer to section 4)

A	B	C	D	E		F	G
Threatened species (listed under the EPBC Act)	Credit Type	Record PCTs associated with ecosystem credits	Y/N/ Comment	Total area of species habitat (ha)	Credits (total species habitat)	Comment	Relevant page numbers in the BDAR
Koala	Species	n/a	N. Requires reassessment as per BCD recommendation	Requires reassessment as per BCD recommendation on 5	Requires redetermination following BCD recommendation 5.	Requires reassessment due to requested revision of koala species polygon in accordance with advice from the BCD BAM Support Team.	Pp 62, 63, 80-83, 102, App G.5
Greater Glider	Species	n/a	N. Requires determination in accordance with the BAM	Requires assessment in accordance with the BAM.	Currently unknown.	Requires application of the BAM to the species.	Pp 62, 63, 80-83, 102, App G.5

(A) **List** the relevant threatened species that will be significantly impacted in accordance with the referral documentation.

(B) **Record** whether the relevant threatened species is classified as “species credit species” of ecosystem credit species for the purposes of the FBA.

(C) **List** the PCTs associated with the ecosystem credit species.

(D) **Verify** that the habitat polygons for MNES have been mapped appropriately representing the foraging and/or breeding habitat for the species that will be impacted by the development.

(E) **Record** the area of impact (ha) and credits required. For impacts associated with ecosystem credit species identify the total credit requirements associated with the cleared PCTs identified as habitat for the species.

(F) **Comment** on the adequacy of the analysis of the impacts in relation to the nature and extent of the impact and whether or not the EIS includes an analysis of the direct and indirect impacts to the species. Note if further information is required.

(G) **Cite** relevant page numbers for details provided in the BDAR and Appendices for each threatened species

3. Avoid, mitigate and offset

- (a) *Comment on whether or not the BDAR identifies measures to avoid and minimise impacts on the relevant EPBC Act listed threatened species and communities. The BAM requires that proponents detail these efforts and commitments within the BDAR. Identify gaps in the discussion of measures to avoid and minimise impacts on Commonwealth matters. Provide references to sections and page numbers in the BDAR.*

Measures to avoid and minimise impacts are set out in Chapter 6 of the BDAR (pages 65-70), whilst measures to mitigate and manage impacts are set out in Chapter 8 of the BDAR (pages 88-95).

The BCD has made recommendations for additional measures that minimise impacts on EPBC Act listed threatened species and communities as follows:

- modifying the proposal to further avoid impacts on Vegetation Zones 1 and 5 by reducing the development footprint to avoid these areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community.
- actively managing additional areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community on the development site outside the development footprint to substantially improve the condition of this vegetation community.
- protecting the areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community on the development site outside the development footprint through an appropriate mechanism, such as a Conservation Agreement under the BC Act.
- including a requirement in the BMP for the proponent to actively manage those areas of the critically endangered White Box Yellow Box Blakely's Red Gum Woodland ecological community proposed to be retained on the development site to substantially improve the condition and connectivity of this native vegetation and assist in minimising biodiversity losses. This may be achieved by increasing the quality of this vegetation and other native vegetation present, including the extent and quality of habitat available for threatened species impacted by the proposal, particularly Koalas, Southern Myotis and Greater Gliders. Rehabilitation should also consider including measures to exclude stock grazing and enhance connectivity with adjoining native vegetation.

- (b) *Comment on the adequacy and feasibility of measures to avoid and minimise impacts. Identify inadequacies where further efforts could be made to avoid and minimise impacts on Commonwealth matters. Provide references to sections and page numbers in the BDAR that discuss avoidance and mitigation measures relevant to EPBC Act listed species and communities.*

Measures to avoid and minimise impacts are set out in Chapter 6 of the BDAR (pages 65-70), whilst measures to mitigate and manage impacts are set out in Chapter 8 of the BDAR (pages 88-95).

The measures to avoid, minimise, mitigate and manage appear adequate and feasible in general, noting that additional measure to minimise impacts have been required by the BCD given the proposal is likely to have a Serious and Irreversible Impact on biodiversity values due to its impacts on high quality areas of the critically endangered White Box Yellow Box Blakely's Red Gum Grassy Woodland community.

These additional measures are set out on point 3(a) above.

4. Offsetting

- a) *Verify [by ticking the following boxes] that the offsets proposed to address impacts to EPBC-listed threatened species and communities are in accordance with the requirements under the EPBC Act.*

An appropriate offset for any residual adverse significant impact has been determined.



Proposed offsets for EECs provide a like for like outcome i.e. proponents have identified PCTs

attributed to the specific threatened ecological community being impacted

Proposed offsets have been determined using the BAM

As discussed above, reassessment of Koala polygons and the redetermination of the credit obligation for Koalas is required.

Inclusion of an assessment of the Greater Glider using the BAM, including the generation of a credit requirement is also required.

- b) *Comment on whether the information and data relied upon for the assessment have been appropriately referenced in the BDAR. Comment on the validity of sources of information and robustness of the evidence.*

The information and data used in the assessment have been appropriately referenced, and the sources of information are valid.

BCD Recommendation

17. The parts of the BDAR relevant to EBPC listed threatened species and communities must be amended as required, once recommendations 1-15 in *A. Biodiversity Assessment Methodology 2017 – Review under the BC Act* above have been addressed.