5 November 2021

Rebecca Schwarzman
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Dear Rebecca,

Re: 21-575 BOS Evaluation Tumut Composting Facility

It is understood that you are submitting a development application seeking approval for a composting facility on Lot 1 DP197308 at Tumut, NSW. This requires an assessment of the biodiversity impacts of the proposal under both the NSW Biodiversity Conservation Act 2016 (BC Act) and Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

After our site assessment and further considerations under the EPBC and BC Acts, we determined that:

- A small proportion (8.9%) of the development footprint is identified as native vegetation, consisting of Plant Community Type (PCT) 277 and planted native vegetation. The remaining vegetation within the development footprint is comprised of exotic vegetation.
- The site is not located in an area mapped with Biodiversity Values.
- There is potential for impacts to eight threatened fauna species, and we therefore conducted BC Act Tests of Significance and EPBC Act significant impact assessments to assess impacts to threatened species identified as likely to be using habitat that would be impacted by the proposed development. Our assessments concluded that the impact of this proposal on threatened entities is not considered significant. Mitigation measures have been provided to minimise impacts to threatened entities.
- The Koala SEPP 2020 and 2021 assessment determined the land for the proposed development is not considered to be potential or core koala habitat. A Koala Assessment Report is not required for this proposed development.
- The existing vegetation is likely to support local biodiversity such as common mammals and birds; there are further considerations for these matters in the recommendations.

In conclusion, the proposal is not considered to trigger the BC Act's Biodiversity Offset Scheme (BOS). Impacts of EPBC species are considered to be minimal and a referral under the EPBC Act is not considered to be required.

If you have any questions, please contact me or Brooke Marshall on (02) 6492 8303. We would be pleased to discuss any aspect of this project with you further.

Yours sincerely,

Jessie Russo
Ecologist
02 6923 1563

1. Scope of Assessment

It is understood that development approval to establish a composting facility on Lot 1 DP197308 at Tumut, NSW will be sought from Snowy Valleys Council (SVC). As the proposal includes the removal of native vegetation, an ecological assessment will be required to be lodged with a Development Assessment (DA). The DA is to be assessed under Part 4 of the Environmental Planning and Assessment Act, 1979. As such, the assessment must comply with the Biodiversity Conservation Act 2016 (BC Act) and determine if the clearing triggers the NSW Biodiversity Offsets Scheme (BOS) Thresholds. There are three relevant triggers:

1. Exceeding the native vegetation clearing threshold for the lot size
2. Intersecting areas identified on the NSW Department of Planning, Industry and Environment Biodiversity Values Map and Threshold Tool (BMAT) (areas with high biodiversity value that are particularly sensitive to impacts from development and clearing)
3. Clearing which may generate a significant impact on a threatened entity (such as a listed ecological community, species or population).

The development site does not trigger points 1 or 2 for the following reasons:

1. Native vegetation clearing extent did not trigger the BOS threshold for your proposal. The area clearing threshold depends on the minimum lot size of the subject land. The minimum lot size for the subject land is 2 ha, thus up to 0.5 ha of native vegetation can be cleared before triggering the BOS threshold. The area of native vegetation proposed for clearing (as defined under 60B of the Local Land Service Act) is confirmed to total 0.19 ha, which is under the clearing threshold (Appendix C).
2. There is no impact in areas mapped within the Biodiversity Values Mapping (refer to map Appendix A).

The BMAT tool is a desktop guidance tool to help determine if a development will exceed the BOS thresholds. The BMAT tool relies on land with vegetation mapping to calculate the area of native vegetation being cleared. This vegetation mapping can be incomplete or inaccurate. This assessment involves a site inspection to ground-truth native vegetation within the development footprint to accurately assess the area of native vegetation clearing, therefore a BMAT report is not required for this assessment.

An additional trigger occurs where the clearing has the potential to generate a significant impact on a threatened entity (such as a listed ecological community, species or population). This is the focus of this assessment and includes data base searches and a site inspection by an experienced ecologist.

An NGH ecologist inspected the site on 31 August 2021 to evaluate the development against these criteria and provide recommendations to minimise impacts to biodiversity as required.

2. Proposal

This report pertains to a development application which involves a proposed composting facility on the subject land (Lot 1 DP197308, Tumut, NSW). The proposal will require the removal of native vegetation to construct the associated infrastructure for the composting facility. Under the NSW BC Act, up to 0.5 ha of native vegetation can be cleared without triggering the BOS. It is assumed for the purpose of assessment that all the native vegetation within the development footprint will be cleared. The proposed development footprint is 2.08 ha in size comprised of a mix of native and exotic vegetation (Appendix C). The development footprint includes all ancillary areas required for the construction and operation of the development including compound sites, plant and equipment laydown areas, and vehicle parking.

2.1 Site Description

A field survey was conducted on 31st August 2021 by a BAM accredited ecologist for a period of four hours to determine the vegetation and plant community types (PCTS) present at the site. A survey of fauna habitats and incidental fauna observations was also undertaken. Patches of Plant Community Type (PCT) *277 Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion* were identified within the development footprint in the Southern end of the site. These areas comprised a few large remnant Blakely's Red Gum (*E. blakelyi*) with regenerating canopy species over a predominantly exotic ground layer.

Narrow strips of planted native vegetation were also present along the riparian zone and North-Eastern Fence line. Planted vegetation was comprised of species local to the area such as Long-leaved Box (*Eucalyptus goniocalyx*), Silver Wattle (*Acacia dealbata*), Blackwood (*Acacia melanoxylon*) and River Oak (*Casuarina cunninghamiana*).

The remaining vegetation within the development footprint was identified as exotic vegetation and comprised of predominantly exotic pasture grasses such as Phalaris (*Phalaris aquatica*), Rye Grass (*Lolium spp*) and Brome (*Bromus spp.*). The exotic areas have shown signs of heavy and continued grazing from cattle.

One isolated paddock tree (*E. blakelyi*) occurs within the exotic pasture. This tree had a small hollow at the base of the trunk but no hollows were visible within any limbs. A family of Yellow Rumped Thornbill were observed foraging within the paddock tree for the duration of the site survey.

An unnamed perennial waterway runs through the centre of the site. It is a slow moving turbid creek with a silty substrate and some cobble stones. The channel is narrow (1 - 2m wide) with banks steeply eroded in some parts. Riparian vegetation is dominated by exotic vegetation such as Phalaris and Paspalum and exotic invasive shrubs such as Privet (*Ligustrum lucidum*) and Prunus *sp.*

A full list of species detected during the survey is shown in Appendix B.

2.2 Vegetation

Two native vegetation types were identified:

- PCT 277: *Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion* and,
- Planted Native Vegetation

PCT 277 is associated with Critically Endangered Ecological Community (EEC): *White Box - Yellow Box - Blakely's Red Gum Woodland (Box Gum Woodland)* listed under the Biodiversity Conservation Act 2016 due to the presence of characteristic species in the overstorey.

The remaining vegetation within the development footprint is identified as exotic vegetation (Figure 2-2). Two Biodiversity Assessment Method (BAM plots) were undertaken to confirm the dominance of exotic vegetation in these areas. The list of native flora species identified from the plots in provided in Appendix B.

Native Vegetation Mapping is shown in Appendix C.

Figure 2-1 Example of PCT 277 within the development footprint

Figure 2-2 Example of exotic vegetation within the development footprint

2.3 Fauna Habitat

The habitat features within the proposed development footprint include (Figure 2-3):

- Canopy trees which provide shelter and a food source to local fauna
- Understorey of planted shrubs along the riparian zone, which provides foraging and cover for birds
- An unnamed waterway with fringing vegetation.
- One hollow bearing tree were identified within the development footprint. This tree had a small hollow at the base of the trunk but no hollows were visible within any limbs

Figure 2-3 Example of riparian habitat features within the development footprint

Figure 2-4 Hollow bearing trees (HBT) within the development footprint

3. Background Searches

3.1 Commonwealth Matters of National Environmental Significance

The Commonwealth EPBC Protected Matters Search Tool search includes a 10 km radius buffer surrounding the development site. The results of the search are included in Appendix D and Appendix E. Note the Matters of National Environmental Significance search includes migratory species, many of which are not listed as threatened.

Four Threatened Ecological Communities (TECs) were listed to have the potential to occur in this area:

- *Alpine Sphagnum Bogs and Associated Ferns*
- *Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia*
- *Natural Temperate Grassland of the South Eastern Highlands*
- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.*

None of these TECs are associated with the PCTs found on site. PCT 277 does not conform to the Commonwealth listed EPBC Act, Critically Endangered: *White Box-Yellow Box-Blakely's Red Gum Woodland* under the EPBC Act, due to the ground layer dominated by exotic species and containing less than 50% of native perennial species.

Threatened flora with potential to occur includes 10 species. Threatened fauna with potential to occur includes 10 birds, 3 frogs, 5 mammals, 3 Fish, 2 reptiles and 1 insect. Two of these species, the Booroolong Frog (*Litoria booroolongensis*) and Superb Parrot (*Polytelis* swainsonii) were considered to potentially rely upon the habitat within the proposed development footprint. An assessment of the potential for these species to be impacted by the proposal has been completed (Appendix G).

3.2 NSW Threatened Entities

Based on the State Vegetation Mapping available, one TEC is likely to occur in this area:

- *White Box - Yellow Box - Blakely's 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.*

This TEC is associated with PCT 277 found on site (refer to Section 2.1). An assessment of the potential for this TEC to be impacted by the proposal has been completed (Appendix F).

The NSW BioNet Atlas search for threatened species includes a 10 km radius buffer from the development site.

Threatened flora with potential to occur includes 23 species. Threatened fauna with potential to occur includes 14 birds, 1 frog, 1 reptile, 1 insect and 6 mammals (Appendix E). The following eight species were considered to potentially rely upon the habitat within the proposed development footprint due to the presence of breeding and foraging habitat, and records within 10 km.

- Amphibians
    - Booroolong Frog (*Litoria booroolongensis*) BC Act/EPBC Act
- Bats

- Eastern False Pipistrelle (*Falsistrellus tasmaniensis)* BC Act
- Yellow-bellied Sheath-tailed Bat (*Saccolaimus flavientris*) BC Act

- Birds
  - Diamond Firetail (Stagonopleura guttata) BC Act
  - Dusky Woodswallow (*Artamus cyanopterus cyanopterus*) BC Act
  - Scarlet Robin (Petroica boodang) BC Act
  - Superb Parrot (*Polytelis swainsonii*) BC Act/EPBC Act
  - Varied Sittella (*Daphoenositta chrysoptera)* BC Act

An assessment of the potential for these species to be impacted by the proposal has been completed (Appendix F and Appendix G).

3.3 State Environmental Planning Policy (Koala Habitat Protection) 2020 and 2021

Currently two Koala SEPPs apply in NSW:

- The State Environmental Planning Policy (Koala Habitat Protection) 2020, which commenced on 30 November 2020 and largely reinstates the policy framework of SEPP 44
- The State Environmental Planning Policy (Koala Habitat Protection) 2021, which commenced on 17 March 2021 and largely reinstates the policy framework of the 2019 Koala SEPP.

NGH reviewed the Koala SEPP 2020 and 2021, and the accompanying Koala SEPP 2021 FAQs (Appendix H) to determine whether these Policies would apply to the proposed development. Both the Koala SEPP 2020 and 2021 apply to the proposed development, this is detailed further below.

3.3.1 Koala Habitat Protection SEPP 2020 Policy overview

The Koala SEPP 2020 aims to:

> "*encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:*
>
> *(a) by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat;*
>
> *(b) by encouraging the identification of areas of core koala habitat; and,*
>
> *(c) by encouraging the inclusion of areas of core koala habitat in environment protection zones."*

The development controls under the Koala SEPP 2020 applies to all land:

1. **That is land to which the Koala SEPP 2020 applies.** The subject land contains areas zoned RU1 under the Tumut LEP 2012. Therefore, the Koala SEPP 2020 applies.
2. **That is land in relation to which a development application has been made.** A DA for the proposal is in the process of being by the Proponent
3. **That the size of the land, including any adjoining parcels of land owned by the development applicant, is more than 1 hectare.** The proposed development footprint is 2.08 ha. Therefore, the proposal meets this criterion.

Under Part 2 of the Koala SEPP 2020, Council (SVC for this assessment) may grant development consent if the applicant provides to the Council evidence, prepared by a suitably qualified and experienced person, that the land subject to the development application:

- is not potential koala habitat; or,
- if it is potential koala habitat, it is not core koala habitat; or,
- if it is core koala habitat, a Koala Plan of Management (Koala PoM) must be either be in place or be prepared, and Council's determination of the DA cannot be inconsistent with the Koala PoM.

Under Part 1, Section 4 of the Koala SEPP 2020, the following definitions apply:"

Potential koala habitat: means areas of native vegetation where trees of the types listed in Schedule 2 of the Koala SEPP 2020 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.

Core koala habitat: means an area of land with a resident population of koalas, evidenced by attributes such as breeding females, being females with young, and recent sightings of and historical records of a population.

3.3.2 Koala Habitat Protection SEPP 2020 Assessment

Does the proposed development area contain trees listed under Schedule 2 of the Koala SEPP 2020?

Yes. Feed trees, small planted River Red Gum (*Eucalyptus camaldulensis*), listed on Schedule 2 was identified during site surveys.

Is the land potential Koala habitat?

Within the areas of native vegetation in the subject land, River Red Gum (*Eucalyptus camaldulensis*), did not constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.

Is the land core Koala habitat?

There was no detection of Koala or evidence of their presence during site visit undertaken by an NGH ecologist. There are no NSW Bionet Atlas records for Koala within 10 km of the subject land.

NGH ecologists therefore do not consider the land to be potential or core Koala habitat, as defined under the Koala SEPP 2020, and a Koala Management Plan is not required for this proposed development.

3.3.3 Koala Habitat Protection SEPP 2021 Policy overview

The Koala SEPP 2021 aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

The Koala SEPP 2021 does not apply to land zoned RU1 Primary Production, RU2 Rural Landscape or RU3 Forestry unless in the Sydney Metropolitan Area (Blue Mountains, Campbelltown, Hawkesbury, Ku-Ring-Gai, Liverpool, Northern Beaches, Hornsby, Wollondilly LGAs) or the Central Coast LGA where the Koala SEPP 2021 applies to all zones.

The subject land contains areas zoned IN1 General Industrial, the Koala SEPP 2021 is therefore applicable to the proposal.

Under Part 2 Section 11 of the Koala SEPP 2021, if the Council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the Council may grant consent to the development application without the need for a Koala Assessment Report for the development. Council may grant development consent if the applicant provides to the Council evidence, prepared by a suitably qualified and experienced person, that the land subject of the development application:

- does not include any trees belonging to the koala use tree species listed in Schedule 2 for the relevant koala management area, or
- is not core koala habitat.

Under Part 1, Section 4 'Definitions' of the Koala SEPP 2021, core koala habitat means:

- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat (land where 15% or greater of the total number of trees within any Plant Community Type (PCT) are the regionally relevant species of those listed in Schedule 2 of the SEPP), and where koalas are recorded as being present at the time of assessment, or
- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years, ≤2.5 km of the external boundary of the site (for North Coast, Central Coast, Central Southern Tablelands, South Coast Koala Management Areas).

3.3.4 Koala Habitat Protection SEPP 2021 Assessment

Does the proposed development area contain trees listed under Schedule 2 for the Koala Management Area?

Yes. River Red Gum (*Eucalyptus camaldulensis*), Blakely's Red Gum (*Eucalyptus blakelyi*), and Long-leaf Box (*Eucalyptus goniocalyx*) listed on Schedule 2 was identified during site surveys.

Is the land potential Koala habitat?

Within the areas of native vegetation in the subject land, River Red Gum (*Eucalyptus camaldulensis*), Blakely's Red Gum (*Eucalyptus blakelyi*), and Long-leaf Box (*Eucalyptus goniocalyx*), did constitute at least 15% of the total number of trees within the PCT. However, these trees are planted and are still young, about 5 m tall.

There was no detection of Koala or evidence of their presence during site visit undertaken by an NGH ecologist. There are no NSW Bionet Atlas records for Koala within 10 km of the subject land.

Is the land core Koala habitat?

There was no detection of Koala or evidence of their presence during site visit undertaken by an NGH ecologist. There are no NSW Bionet Atlas records for Koala within 10 km of the subject land.

NGH ecologists therefore do not consider the land to be potential or core Koala habitat, and a Koala Assessment Report is not required for this proposed development.

4. Results

A habitat evaluation for threatened species recorded within a 10 km radius of the development site (NSW BioNet Atlas), and those identified as potentially occurring within a 10 km radius of the area according to the Commonwealth EPBC Protected Matters Search Tool was completed.

The likelihood of occurrence is based on presence of habitat, proximity of nearest records and mobility of the species (where relevant). The assessment of potential impact is based on the nature of the proposal, the ecology of the species and its likelihood of occurrence.

The lack of hollow bearing trees (HBT's) onsite limits suitable breeding habitat for certain species.

The habitat evaluation determined that the development site contains habitat that may be suitable for nesting/breeding and/or foraging for eight threatened fauna species. The following species have a high likelihood of being impacted upon by the proposed development:

- Amphibians
    - Booroolong Frog (*Litoria booroolongensis*) BC Act/EPBC Act
- Bats
    - Eastern False Pipostrelle (*Falsistrellus tasmaniensis)* BC Act
    - Yellow-bellied Sheath-tailed Bat (*Saccolaimus flavientris*) BC Act
- Birds
    - Diamond Firetail (Stagonopleura guttata) BC Act
    - Dusky Woodswallow (*Artamus cyanopterus cyanopterus*) BC Act
    - Scarlet Robin (Petroica boodang) BC Act
    - Superb Parrot (*Polytelis swainsonii*) BC Act/EPBC Act
    - Varied Sittella (*Daphoenositta chrysoptera)* BC Act

A Five-part Test of Significance is provided in Appendix F for species with high risk of impact under the BC Act. An assessment of significance impact is provided in Appendix G for species at high risk of impact under the EPBC Act. The Five-part Test and assessment of significance indicates removal of the native vegetation is unlikely to have a significant impact upon any of the threatened species listed above.

The removal of vegetation is likely to impact local fauna that are common in semi-rural landscapes such as birds, bats, kangaroos and possums. It is possible the impact will remove nests or unobserved hollows, therefore further salvage methods should minimise these impacts.

5. Impacts, Conclusions and Recommendations

5.1 Likely Impacts of the Development

A total of 0.19 ha of native vegetation will be removed, which is comprised of 0.14 ha of planted native vegetation and 0.05 ha of PCT 277 (Appendix C). This is assumed to be complete clearing of the ground cover, understorey and overstory required to facilitate the development footprint. Vegetation removal would be undertaken during daylight hours.

Direct impacts would include:

- Small scale fauna habitat loss, including foraging resources for a suite of threatened and non-threatened fauna.
- Potential breeding/foraging habitat loss for Eastern False Pipistrelle, Yellow-bellied Sheath-tailed Bat, Diamond Firetail, Dusky Woodswallow, Scarlet Robin, Superb Parrot and Varied Sittella through removal of 1 hollow bearing tree and 0.19 ha of native vegetation.
- Temporary disturbance from noise, vibration and the like during the construction phase. This would be limited to daylight hours and unlikely to disturb the crepuscular activities of nocturnal fauna (such as coming and going to hollows) that may utilise adjacent hollows.

Indirect impacts would include:

- Minor ongoing disturbance to habitat from human activity and noise. This would include the daily operation of the composting facility. Given the scale of the proposal (small) and pre-existing industrial facilities nearby, such as the adjacent waste facility, disturbance could be tolerated by the majority of species likely to be present at the site.

The indirect impacts discussed would have negligible impacts upon threatened entities and no specific mitigation measures are recommended.

5.2 Conclusion

As outlined in Section 1, the primary requirement under the BC Act, is to determine whether a development is likely to significantly affect threatened species.

A summary of the potential impacts from the proposal against the BC Act thresholds is provided in Table 5-1.

Table 5-1 Impact assessment against the BC Act Thresholds.

Threshold	Application to the Proposal	Threshold Exceeded?
The development is likely to significantly affect threatened species, populations or ecological communities (clause 7.2(1)(a))	No significant effects on threatened species, populations or ecological communities is considered likely.	Unlikely
The development exceeds the biodiversity offsets scheme threshold (clause 7.2(1)(b)) Note; there are two potential BOS thresholds, pursuant to clause 7.1(1) of the BC Regulation.		

Threshold		Application to the Proposal	Threshold Exceeded?
Minimum lot size associated with the property	***Threshold for clearing of native vegetation***	The clearing threshold for the proposal is 0.5 ha of native vegetation across the site. Based on the concept layout provided, 0.19 ha of native vegetation would be cleared for the construction of the composting facility. Therefore, this is below the BOS threshold.	No
2 ha or less	0.5 ha or more		
The clearing of native vegetation, or other action prescribed by clause 6.1, on land identified on the Biodiversity Values (BV) map;		No land identified on the BV map occurs within the development footprint.	No
The development is in an area of Outstanding Biodiversity Value (clause 7.2(1)(c))		None occur in the proposal area.	No

According to clause 7.7(2) of the BC Act, if a proposed development is likely to significantly affect threatened species, the development application is to be accompanied by a biodiversity development assessment report (BDAR).

The conclusion of the Tests of Significance (Appendix F and Appendix G) is that it is unlikely that the proposed works would have a significant impact on the above-mentioned TECs or fauna species listed as they are unlikely to:

- Reduce the long-term viability of the threatened species
- Accelerate the extinction of the threatened species or place them at risk of extinction.

Based on the assessment in this report, no BOS thresholds are considered to be exceeded and a BDAR is not required to be submitted with the DA. Impacts of EPBC species are considered to be minimal and a referral under the EPBC Act is not considered to be required.

The Koala SEPP 2020 and 2021 assessment determined the land for the proposed development is not considered to be potential or core koala habitat. A Koala Assessment Report is not required for this proposed development.

5.3 Recommendations

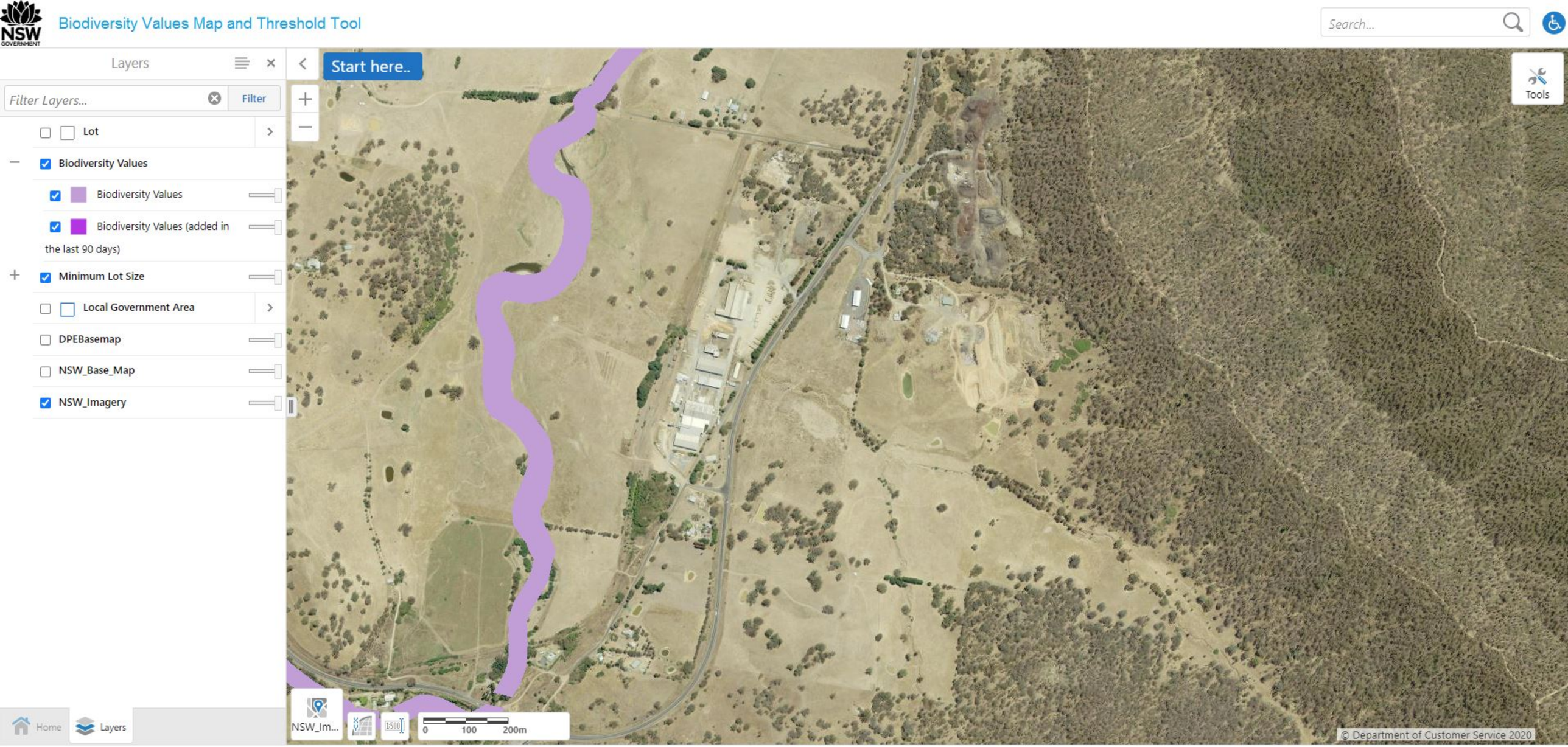
This conclusion is based upon the effective implementation of mitigation measures. The measures include:

1. The clearing area should be delineated clearly to ensure no more than 0.19 ha of native vegetation is impacted by the proposal.
2. Clearing of mature trees should be avoided where possible to minimise impacts to species reliant on mature canopy trees.
3. Timing of tree removal works should be outside of breeding periods avoiding spring and summer, or removal of the trees with a staged felling protocol under the supervision of a qualified ecologist. If this cannot be achieved, a qualified ecologist is to undertake further surveys of the hollow bearing tree to be removed to determine whether any of the

threatened species may be utilising hollows onsite and manage tree fall in accordance with the result (i.e. avoidance of breeding seasons of threatened species).

4. Timing of construction over the unnamed waterway should be outside the breeding and metamorphose period (September to May) for the Booroolong Frog. If this cannot be achieved, a qualified ecologist is to undertake further surveys of the waterway within the development footprint to determine whether this species is present on site and manage in accordance with the result.
5. The *Hygiene protocol for the control of disease in Australian Frogs* (Australian Government 2011) is to be followed to prevent the introduction and spread of Chitrid Fungus within the proposal area.
6. Consider the installation of nests boxes and bat boxes to replace hollows removed. It is recommended that each hollow removed be replaced with two nest boxes of a similar size.
7. Any imported topsoil should be certified weed free. Utilise weed quarantine measures such as clean down loose soil from machinery entering and exiting site to minimise weed spread. A weed quarantine area should be identified prior to construction.
8. Consider using wood chip mulch from cleared vegetation for site remediation rather than grass seeding. This would promote natural regeneration of local species. However, if grass is sown, it is recommended that a native grass seed mix be used.

Appendix A Biodiversity Values Mapping


Biodiversity Values Map and Threshold Tool
Search...
Layers
Filter Layers...
Filter
Lot
Biodiversity Values
Biodiversity Values
Biodiversity Values (added in the last 90 days)
Minimum Lot Size
Local Government Area
DPEBasemap
NSW_Base_Map
NSW_Imagery
Start here..
Tools
NSW_Im...
0
100
200m
Home
Layers
© Department of Customer Service 2020

Appendix B Survey Species List

B.1 Flora Species List

* denotes exotic species

Scientific name	Common name	Family
TREES		
Eucalyptus blakelyi	Blakely's Red Gum	Myrtaceae
Eucalyptus goniocalyx	Long Leaved Box	Myrtaceae
Eucalyptus camaldulensis	River Red Gum	Myrtaceae
SHRUBS, SUB-SHRUBS		
Acacia cultriformis	Knife-leaved Wattle	Fabaceae (Mimosoideae)
Acacia dealbata	Silver Wattle	Fabaceae (Mimosoideae)
Acacia melanoxylon	Blackwood	Fabaceae (Mimosoideae)
Callistemon sieberi	River Bottlebrush	Myrtaceae
Casuarina cunninghamiana subsp. cunninghamiana	River Oak	Casuarinaceae
Leptospermum sp.	Tea-tree	Myrtaceae
**Ligustrum lucidum*	Large-leaved Privet	Oleaceae
**Prunus sp*	Wild Plum	Rosaceae
FORBS		
**Carthamus lanatus*	Saffron Thistle	Asteraceae
**Cirsium vulgare*	Spear Thistle	Asteraceae
**Echium plantagineum*	Patterson's Curse	Boraginaceae
**Galium aparine*	Goosegrass	Rubiaceae
**Hypericum perforatum*	St. Johns Wort	Clusiaceae
**Hypochaeris radicata*	Catsear	Asteraceae
Juncus usitatus		Juncaceae
**Malva parviflora*	Small-flowered Mallow	Malvaceae
**Medicago spp.*	A Medic	Fabaceae (Faboideae)
**Modiola caroliniana*	Red-flowered Mallow	Malvaceae
Oxalis perennans		Oxalidaceae
**Plantago lanceolata*	Lamb's Tongues	Plantaginaceae
**Romulea rosea var. australis*	Onion Grass	Iridaceae
**Rumex crispus*	Curled Dock	Polygonaceae
**Sonchus oleraceus*	Thistle	Asteraceae
**Trifolium spp.*	A Clover	Fabaceae (Faboideae)
GRASSES		
**Avena fatua*	Wild Oats	Poaceae
**Bromus spp.*	A Brome	Poaceae
**Lolium spp.*	A Ryegrass	Poaceae

Scientific name	Common name	Family
**Paspalum dilatatum*	Paspalum	Poaceae
**Phalaris aquatica*	Phalaris	Poaceae
**Poa annua*	Winter Grass	Poaceae

B.2 Fauna Species List

Scientific name	Common name
Acanthiza chrysorrhoa	Yellow-rumped Thornbill
Gymnorhina tibicen	Australian Magpie
Grallina cyanoleuca	Peewee
Vanellus miles	Masked Lapwing
Eolophus roseicapilla	Galah
Macropus giganteus	Eastern Grey Kangaroo
Rhipidura leucophrys	Willie Wagtail

B.3 Plot Data

Scientific Name	Common Name	Family	Plot 1		Plot 2	
			% cover	Species count	% cover	Species count
Forbs						
Carthamus lanatus	Saffron Thistle	Asteraceae	0.1	10		
Cirsium vulgare	Spear Thistle	Asteraceae				
Echium plantagineum	Patterson's Curse	Boraginaceae	0.1	2		
Galium aparine	Goosegrass	Rubiaceae				
Hypericum perforatum	St. Johns Wort	Clusiaceae			0.1	2
Hypochaeris radicata	Catsear	Asteraceae	0.1	10	0.1	5

Juncus usitatus		Juncaceae	0.1	1		
Malva parviflora	Small-flowered Mallow	Malvaceae			0.1	10
Medicago spp.	A Medic	Fabaceae (Faboideae)	0.1	2		
Modiola caroliniana	Red-flowered Mallow	Malvaceae			0.1	1
Oxalis perennans		Oxalidaceae	0.1	5	0.1	2
Plantago lanceolata	Lamb's Tongues	Plantaginaceae			0.1	10
Romulea rosea var. australis	Onion Grass	Iridaceae	0.5	400	15	1000
Rumex crispus	Curled Dock	Polygonaceae	0.1	10	0.1	1
Sonchus oleraceus	Thistle	Asteraceae	0.1	10		
Trifolium spp.	A Clover	Fabaceae (Faboideae)			2	50
Grasses						
Avena fatua	Wild Oats	Poaceae	5	500		
Bromus spp.	A Brome	Poaceae	0.1	100		
Lolium spp.	A Ryegrass	Poaceae	40	1000	35	1000
Paspalum dilatatum	Paspalum	Poaceae				
Phalaris aquatica	Phalaris	Poaceae	50	500	35	300
Poa annua	Winter Grass	Poaceae			3	500

Appendix C Vegetation mapping and habitat features

Appendix D Matters of National Environmental Significance

Australian Government

Department of Agriculture, Water and the Environment

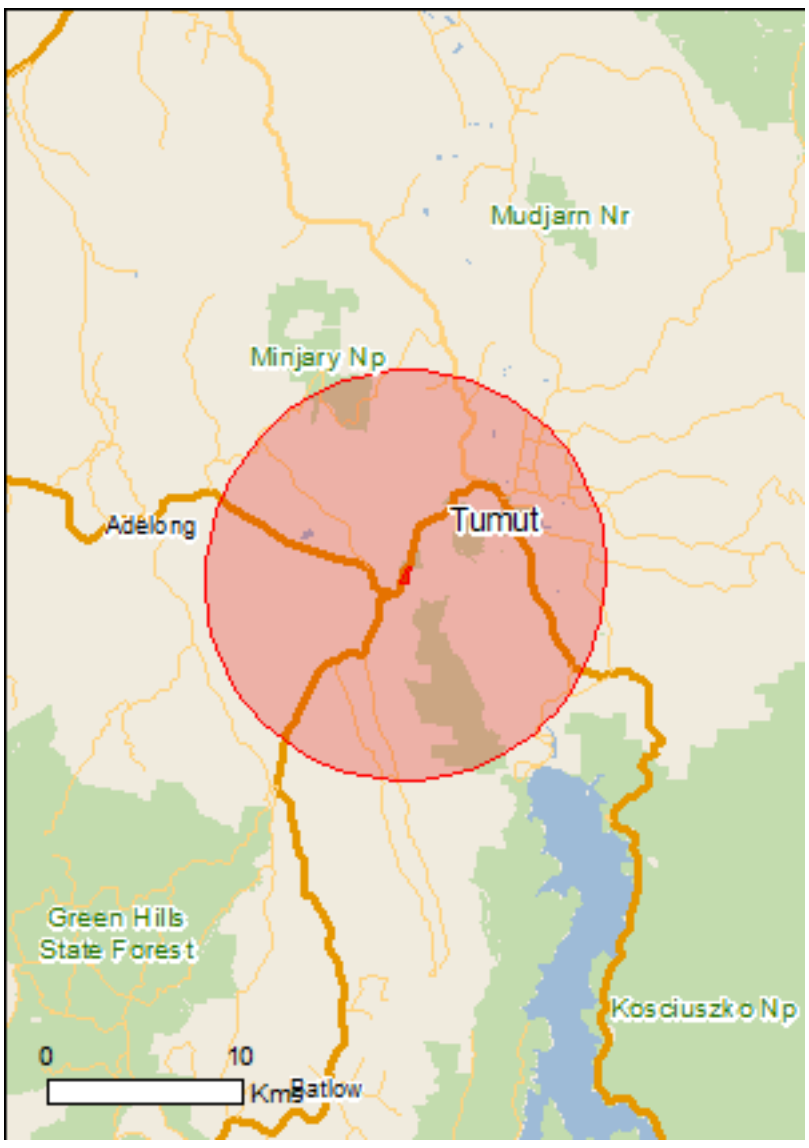
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

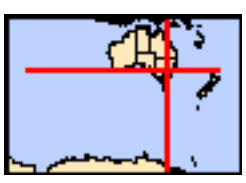
Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 25/08/21 15:40:30



Coordinates

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	34
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	2
Commonwealth Heritage Places:	1
Listed Marine Species:	17
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	2
Regional Forest Agreements:	1
Invasive Species:	30
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

National Heritage Properties		[Resource Information]
Name	State	Status
Historic		
Snowy Mountains Scheme	NSW	Listed place

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Banrock station wetland complex	700 - 800km upstream
Hattah-kulkyne lakes	500 - 600km upstream
Riverland	600 - 700km upstream
The coorong, and lakes alexandrina and albert wetland	700 - 800km upstream

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		
Name	Status	Type of Presence
Alpine Sphagnum Bogs and Associated Fens	Endangered	Community may occur within area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Anthochaera phrygia		
Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Falco hypoleucos		
Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta		
Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus		
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor		
Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur

Name	Status	Type of Presence within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat may occur within area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Frogs		
Crinia sloanei Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area
Litoria booroolongensis Booroolong Frog [1844]	Endangered	Species or species habitat likely to occur within area
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area
Insects		
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat known to occur within area
Mammals		
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat known to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Plants		
Ammobium craspedioides Yass Daisy [20758]	Vulnerable	Species or species habitat likely to occur within area
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within

Name	Status	Type of Presence
		area
Caladenia arenaria Sand-hill Spider-orchid [9275]	Endangered	Species or species habitat may occur within area
Pomaderris cotoneaster Cotoneaster Pomaderris [2043]	Endangered	Species or species habitat may occur within area
Prasophyllum bagoense Bago Leek-orchid [84276]	Critically Endangered	Species or species habitat likely to occur within area
Prasophyllum innubum Brandy Marys Leek-orchid [83603]	Critically Endangered	Species or species habitat may occur within area
Prasophyllum keltonii Kelton's Leek-orchid [83604]	Critically Endangered	Species or species habitat may occur within area
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area
Pterostylis oreophila Blue-tongued Orchid, Kiandra Greenhood [22903]	Critically Endangered	Species or species habitat may occur within area
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
Reptiles		
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may occur within area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Australian Telecommunications Commission
Commonwealth Land - Commonwealth Trading Bank of Australia

Commonwealth Heritage Places [Resource Information]

Name	State	Status
Historic		
Tumut Post Office	NSW	Listed place

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Minjary	NSW
Wereboldera	NSW

Regional Forest Agreements	[Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
Southern RFA	New South Wales

Invasive Species	[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		

Name	Status	Type of Presence
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-35.325779 148.182586,-35.332239 148.18132,-35.331871 148.178488,-35.329228 148.178767,-35.32872 148.178938,-35.325359 148.181685,-35.325359 148.181685,-35.325779 148.182586

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Appendix E BioNet Records within 10 km

Scientific Name	Common Name
Flora	
Pultenaea humilis	Dwarf Bush-pea
Swainsona sericea	Silky Swainson-pea
Fauna	
Ninox connivens	Barking Owl
Litoria booroolongensis	Booroolong Frog
Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)
Stagonopleura guttata	Diamond Firetail
Artamus cyanopterus cyanopterus	Dusky Woodswallow
Falsistrellus tasmaniensis	Eastern False Pipistrelle
Callocephalon fimbriatum	Gang-gang Cockatoo
Petauroides volans	Greater Glider
Synemon plana	Golden Sun Moth
Pteropus poliocephalus	Grey-headed Flying-fox
Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)
Phascolarctos cinereus	Koala
Miniopterus orianae oceanensis	Large Bent-winged Bat
Gallinago hardwickii	Latham's Snipe
Petroica rodinogaster	Pink Robin
Petroica boodang	Scarlet Robin
Chthonicola sagittata	Speckled Warbler
Dasyurus maculatus	Spotted-tailed Quoll
Delma impar	Striped Legless Lizard
Polytelis swainsonii	Superb Parrot

Lathamus discolor	Swift Parrot
Neophema pulchella	Turquoise Parrot
Daphoenositta chrysoptera	Varied Sittella
Hirundapus caudacutus	White-throated Needletail
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat

Appendix F Biodiversity Conservation Act Five Part Test

Part 7.3 of the *Biodiversity Conservation Act 2016* (NSW) (BC Act) specifies five factors to be taken into account in deciding whether a development is likely to significantly affect threatened species, populations or ecological communities, or their habitats, listed at the state level under the BC Act.

This Five-part Test characterises the significance of likely impacts associated with the proposal on the following species:

- 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 (Box-Gum Woodland).
- Amphibians
    - Booroolong Frog (*Litoria booroolongensis*) BC Act
- Bats
    - Eastern False Pipistrelle (*Falsistrellus tasmaniensis)* BC Act
    - Yellow-bellied Sheath-tailed Bat (*Saccolaimus flavientris*) BC Act
- Birds
    - Diamond Firetail (Stagonopleura guttata) BC Act
    - Dusky Woodswallow (*Artamus cyanopterus cyanopterus*) BC Act
    - Scarlet Robin (Petroica boodang) BC Act
    - Superb Parrot (*Polytelis swainsonii*) BC Act
    - Varied Sittella (*Daphoenositta chrysoptera)* BC Act

a) ***In the case of a threatened species, whether the proposed development is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.***
TEC – Box-Gum Woodland
Not applicable
Amphibians – Booroolong Frog
Potential habitat for the Booroolong Frog occurs within the development footprint. This habitat primary occurs within the unnamed waterway which intersects the development footprint. This species was not observed within the development footprint however, targeted surveys were not conducted. No known important populations of this species occur within the development footprint, and only one record occurs within 10 km. The proposal contains 0.06 ha of potential habitat for the Boorolong Frog. The disturbance of this habitat is considered minor in the context of similar habitat in the surrounding area. The loss of potential habitat from the works would constitute less than 1% of similar habitat adjacent to the development footprint. The loss of 0.06 ha of potential habitat from the proposed work is not considered to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk

of extinction.
Fauna – Microbats; Eastern False Pipistrelle, Yellow-bellied Sheath-tailed Bat
Microbats are regarded as highly mobile species that have been known to travel tens of kilometres to forage. Potential habitat for the Eastern False Pipistrelle and Yellow-bellied Sheath-tailed Bat occurs within the development footprint. This habitat primarily occurs in the form of PCT 277. The Eastern False Pipistrelle roost in hollows, under loose bark on trees, or in buildings. The Yellow-bellied Sheath-tailed Bat roosts in hollows, buildings and mammal burrows. HBTs are the preferred roosting site for both species. There are no known breeding sites for these species within the proposal area, however there are records of these species within 10 km of the proposal area. The proposal site contains 0.19 ha of potential foraging and roosting habitat, which is comprised of 0.14 ha of planted native vegetation (predominantly juvenile), 0.05 ha of PCT 277. The loss of this habitat is considered small in the local context of the locality, with over 2000 hectares of higher quality foraging and roosting habitat remaining in the nearby (600m east) Wereboldera State Conservation Area where these species has been recorded. The loss of one HBT is not considered to be a significant impact on breeding habitat considering the abundance of other hollow bearing trees and high-quality habitat found in Wereboldera State Conservation Area. With the implementation of the recommended mitigation measures including a staged felling process with an ecologist on site, the loss of 0.19 ha of potential habitat from the proposed work is not considered to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.
Fauna – Birds (Aerial/Canopy); Superb Parrot
Aerial and canopy dwelling birds are highly mobile species that can travel tens of kilometres to forage. Potential foraging habitat for the Superb Parrot occurs within the development footprint. This habitat primarily occurs in the form of PCT 277. This species was not observed within the development footprint however, targeted surveys were not conducted. No known important populations of this species occur within the development footprint. The proposal would result in 0.19 ha of native vegetation being removed, which is comprised of 0.14 ha of planted native vegetation (predominantly juvenile), 0.05 ha of PCT 277. One HBT would also be removed, however the hollow is not suitable for breeding habitat for the Superb Parrot. The Superb Parrot favours forested or woodland areas with the presence of hollow-bearing trees to breed in within the Riverina. Therefore, it is unlikely for the Superb Parrot to be reliant upon the habitat within the development footprint for breeding. However, the Superb Parrot may forage this locality during their annual migration. The loss of 0.19 ha of foraging habitat from the proposed work is not considered to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.
Fauna – Birds (Ground Dwelling); Diamond Firetail, Dusky Woodswallow, Scarlet Robin, Varied Sitella
Ground dwelling birds are highly mobile species that can travel kilometres to forage. Potential foraging and nesting habitat for the Diamond Firetail, Dusky Woodswallow, Scarlet Robin and Varied Sitella occurs within the development footprint. This habitat primarily occurs in the form of PCT 277. The development footprint contains 0.19 ha of potential foraging and nesting habitat. The loss of this habitat is considered small in the local context of the locality with over 2000 ha of higher quality foraging and nesting habitat remaining in the nearby (600m east) Wereboldera State Conservation Area where these species have been recorded. The loss of the native vegetation and one mature non-hollow bearing tree could have an impact of nesting for ground dwelling birds who use shrubs and low trees to build nests. However, given the small context of vegetation clearing and the abundance of high quality foraging habitat, breeding habitat present within the locality it is not considered a significant impact on the life cycle of these species. The loss of 0.19 ha of potential habitat from the proposed work is not considered to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

b) In the case of an endangered ecological community, or critically endangered ecological community, whether the proposed development or activity: ***a. Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction.*** ***b. Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction***
TEC – Box-Gum Woodland
The proposal would result in the removal of a small area (0.05ha) of the Box–Gum woodland (in the form of PCT 277). A majority of PCT 277 within the lot boundary (2.6 ha) of the proposal would be retained. Given this, the proposal is considered unlikely to place the local occurrence of the community at risk of extinction. The Box-Gum Woodland to be removed occurs mostly as low to moderate condition, lacking diversity in native grasses and forbs, and containing a high proportion of exotic species. The proposal is considered unlikely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction given the small scope of the works and small area of Box-Gum Woodland to be removed.
Amphibians – Booroolong Frog
Not applicable
Fauna – Microbats; Eastern False Pipistrelle, Yellow-bellied Sheath-tailed Bat
Not applicable
Fauna – Birds (Aerial/Canopy); Superb Parrot
Not applicable
Fauna – Birds (Ground Dwelling); Diamond Firetail, Dusky Woodswallow, Scarlet Robin, Varied Sitella
Not applicable
c) In relation to the habitat of a threatened species or ecological community: ***i. The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and*** ***ii. Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and*** ***iii. The importance of the habitat to be removed, modified, fragmented or isolated to the long–term survival of the species or ecological community in the locality.***
TEC – Box-Gum Woodland
I. Approximately 0.05 ha of Box-Gum Woodland would be cleared by the proposal. II. The proposed result in the removal of a small area (0.05ha) of the Box–Gum woodland (in the form of PCT 277). A majority of PCT 277 within the lot boundary (2.6 ha) of the proposal would be retained. Considering the small extent of work to be completed it is not considered likely to fragment the community beyond existing conditions. III. The community within the study area is generally of low to moderate quality and frequently disturbed. It is considered unlikely that the habitat to be disturbed is important to the long–term survival of this community in the locality.

Amphibians – Booroolong Frog

I. Approximately 0.06 ha of potential habitat would be modified by the proposal.
II. The proposed works would disturb 0.06 ha of potential habitat as a result of constructing the site access track over the unnamed waterway. However, the installation of culverts would allow the species to still freely traverse either side of the waterway, therefore the proposed work is not considered likely to fragment or isolate this species.
III. The habitat to be disturbed is not of high importance to the long-term survival of the species in the locality due to the disturbed nature of the habitat, and is not known habitat for this species.

Fauna – Microbats; Eastern False Pipistrelle, Yellow-bellied Sheath-tailed Bat

I. Approximately 0.19 ha of native vegetation would be removed by the proposal. This is comprised of 0.14 ha of planted native vegetation (predominantly juvenile) and 0.05 ha of PCT 277.
II. Considering the mobility of the species and the small extent of work to be completed it is not considered likely to fragment habitat beyond existing conditions.
III. The habitat to be removed is considered small (0.19 ha) in the local context, with over 2000 hectares of higher quality foraging and roosting habitat remaining in the nearby (600m east) Wereboldera State Conservation Area. This habitat is not considered important for the long-term survival of these species considering the extent to be disturbed in relation to the abundance of adequate and high-quality habitat within the microbats range.

Fauna – Birds (Aerial/Canopy); Superb Parrot

I. Approximately 0.19 ha of native vegetation would be removed by the proposal. This is comprised of 0.14 ha of planted native vegetation (predominantly juvenile) and 0.05 ha of PCT 277.
II. Considering the mobility of the species and the small extent of work to be completed it is not considered likely to fragment habitat beyond existing conditions.
III. The habitat to be removed is considered small (0.19 ha) in the local context, with over 2000 hectares of higher quality foraging habitat remaining in the nearby (600m east) Wereboldera State Conservation Area. This habitat is not considered important for the long-term survival of these species considering the extent to be disturbed in relation to the abundance of adequate and high-quality habitat within the foraging range for aerial birds.

Fauna – Birds (Ground Dwelling); Diamond Firetail, Dusky Woodswallow, Scarlet Robin, Varied Sitella

I. Approximately 0.19 ha of native vegetation would be removed by the proposal. This is comprised of 0.14 ha of planted native vegetation (predominantly juvenile) and 0.05 ha of PCT 277.
II. Considering the mobility of the species and the small extent of work to be completed it is not considered likely to fragment habitat beyond existing conditions.
III. The habitat to be removed is considered small (0.19 ha) in the local context, with over 2000 hectares of higher quality foraging and breeding habitat remaining in the nearby (600m east) Wereboldera State Conservation Area. This habitat is not considered important for the long-term survival of these species considering the extent to be disturbed in relation to the abundance of adequate and high-quality habitat within the foraging range for ground dwelling birds.

d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

No Areas of Outstanding Biodiversity Values (AOBV) occur within the proposal area.

e) Whether the proposed development or activity is part of a key threatening process or is likely to increase the impact of a key threatening process.

The BC Act lists numerous key threatening processes (KTP's). KTP's relevant to the proposal including the following:

- **Clearing of native vegetation**

Clearing of native vegetation is recognised as a major factor contributing to loss of biological diversity. In the determination, the NSW Scientific Committee found that 'clearing of any area of native vegetation, including areas less than two hectares in extent, may have significant impacts on

biological diversity." The proposal would result in the disturbance of up 0.19 ha of previously disturbed vegetation, which is comprised of 0.14 ha of planted native vegetation (predominantly juvenile) and 0.05 ha of PCT 277. The disturbance area predominately consists of understorey and groundcover with a high exotic component. The proposal would be unlikely to increase the impact of this KTP.

- **Invasion of native plant communities by exotic perennial grasses**

A number of exotic perennial grasses occur in the Snowy Valleys LGA and weed spread measure are required to prevent their spread. Common exotic perennial grasses which have the potential to invade and dominate native plant communities include Coolatai Grass (*Hyparrhenia hirta*), Chilean Needlegrass (*Nassella neesiana*) and Serrated Tussock (*Nassella trichotoma*). None of these species were detected on site during the site survey. These species compete with, and displace, many native species. Dense monocultures of perennial grasses that develop after invasion threaten local vegetation at all sites that are affected. This may result in local and regional declines of many native species and communities, placing them under threat.

The proposal involves disturbance that can lead to the transportation of exotic perennial grasses. As a result of disturbance from the proposal and movement of plant equipment, the proposal has the potential to allow the establishment of exotic perennial grasses. As part of the mitigation measures, it has been recommended that construction machinery would be cleaned prior to entering and exiting work sites, and regular targeted control of priority weeds would be undertaken to reduce the risk of weeds being introduced and spread. With the implementation of these measures, the proposal would be unlikely to increase the impact of this KTP.

Invasion and establishment of exotic vines and scramblers

A number of exotic vines and scramblers occur in the Snowy Valleys LGA. Common exotic vines which have the potential to become established in the proposal area are Madeira vine (*Anredera cordifolia*), Mikania vine (*Mikania micrantha*) and Rubber vine (*Cryptostegia grandiflora*). The proposal involves disturbance that could lead to the establishment of exotic vines and scramblers. During the site survey, no exotic vines or scramblers were identified in the study area. As part of the mitigation measures, it has been recommended that construction machinery would be cleaned prior to entering and exiting work sites, and regular targeted control of weeds would be undertaken to reduce the risk of exotic vines and scramblers being introduced. With the implementation of this measure, the proposal would be unlikely to increase the impact of this KTP.

Appendix G EPBC Act Significant Impact Assessment

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) specifies factors to be taken into account in deciding whether a development is likely to significantly affect Endangered Ecological Communities, threatened species and migratory species, listed at the Commonwealth level. These assessments characterise the significance of likely impacts associated with the proposal on the following:

G.1 Vulnerable Species

Bird

- Superb Parrot (*Polytelis swainsonii*)

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:
a) **Will the action lead to a long-term decrease in the size of an important population of a species?**
Superb Parrot
Potential foraging habitat for the Superb Parrot occurs within the development footprint. This habitat primarily occurs in the form of PCT 277. This species was not observed within the development footprint however, targeted surveys were not conducted. No known important populations of this species occur within the development footprint. The proposal would result in 0.19 ha of native vegetation being removed, which is comprised of 0.14 ha of planted native vegetation (predominantly juvenile), 0.05 ha of PCT 277. One HBT would also be removed, however the hollow is not suitable for breeding habitat for the Superb Parrot. The Superb Parrot favours forested or woodland areas with the presence of hollow-bearing trees to breed in within the Riverina. Therefore, it is unlikely for the Superb Parrot to be reliant upon the habitat within the development footprint. The small area of disturbance (0.19 ha) is unlikely to decrease the size of an important population of this species.
b) Will the action reduce the area of occupancy of an important population of a species?
Superb Parrot
An important population of this species is not known to occur within the study area. The core breeding habitat for the Superb Parrot on the South Western Slopes is roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west, these areas are outside of the study area. The proposal area only contains potential foraging habitat for this species. The removal of 0.19 ha of native vegetation is unlikely to be important to the survival of this species. The loss of this habitat is considered small in the local context of the locality with over 2000 ha of higher quality foraging habitat remaining in the nearby (600m east) Wereboldera State Conservation Area. Therefore, the proposal is not considered an action that would reduce the area of occupancy of any important population for this species.
c) Will the action fragment an existing important population into two or more populations?

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:
Superb Parrot
An important population of this species is not known to occur within the development footprint. As noted above, the proposal would involve the removal of a small area (0.19 ah) of potential foraging habitat for this species. Considering the mobility of the species and the small extent of the proposed work, it is unlikely that the proposal will fragment an important population in two or more populations and connectivity will still be retained.
d) Will the action adversely affect habitat critical to the survival of a species?
Superb Parrot
According to the National Recovery Plan habitat critical to the survival of this species can be broken into breeding and foraging habitat. In the Riverina breeding habitat includes riverine forest with a preference for River Red Gums for nesting. Foraging habitat in the Riverina consists of the blossoms of River Red Gum, box-pine, box, pine and Boree woodland. Considering only small area (0.19 ha) of potential foraging habitat will be removed, it is unlikely that this habitat is critical to the survival of this species.
e) Will the action disrupt the breeding cycle of an important population?
Superb Parrot
The Superb Parrot nests in hollows of mature trees between September and December. One HBT would be removed by the proposed work, however the hollow is not suitable for breeding habitat for the Superb Parrot. Given that no suitable breeding habitat would be impacted, and the mobility of this species, it is unlikely that this proposal would disrupt the breeding cycle of an important population of this species.
f) Will the action modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline?
Superb Parrot
As above, the proposal is not expected to reduce the potential habitat for this species. The proposal is not expected to modify, destroy, remove, isolate or decrease the availability or quality of habitat for this species to an extent that it is likely to decline. The area of impact is minor in consideration of the local context and the habitat already experiences disturbances from previous clearing and agricultural practices.
g) Will the action result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat?
A number of weeds have been recorded on the site. The proposal has the potential to contribute to the spread of invasive species in the development area through the transfer and introduction of plant material and soil on machinery. Mitigation measures have been recommended to prevent the spread of weeds on site. This includes regular checking and cleaning of vehicles and plant. The proposal would therefore be unlikely to result in invasive species that are harmful to these species becoming established in their potential habitat.
h) Will the action introduce disease that may cause the species to decline?

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:
The proposal has the potential to contribute to the spread of disease in the development area through the transfer and introduction of plant material and soil on machinery. Mitigation measures have been recommended to prevent the spread of weeds on site. This includes regular cleaning of all vehicles and machinery. The proposal would therefore be unlikely to result in invasive species that are harmful to these species becoming established in their potential habitat.
i) Will the action interfere substantially with the recovery of the species?
Superb Parrot
There is a National Recovery Plan for the Superb Parrot. The following recovery objectives and actions with the recovery plan are as follows: • Determine population trends for Superb Parrot • Increase the level of knowledge of the Superb Parrot's ecological requirements • Develop and implement threat abatement strategies • Increase community involvement in and awareness of the Superb Parrot recovery program As above, the proposal is not expected to significantly reduce the potential habitat for this species. The proposal would result in the loss of up to 0.19 ha of native vegetation area which provides limited foraging habitat for the Superb Parrot. As such the likelihood of the Superb Parrot using and relying upon this habitat is low. Therefore, the proposal would not interfere with any of these objectives.

G.2 Endangered Species

- Booroolong Frog (Litoria booroolongensis)

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:
a) **Will the action lead to a long-term decrease in the size of population of a species?**
Booroolong Frog
Potential habitat for the Boorolong frog occurs within the development footprint. This habitat primary occurs within the unnamed waterway which intersects the development footprint. This species was not observed within the development footprint however, targeted surveys were not conducted. No known important populations of this species occur within the development footprint. The proposal contains 0.06 ha of potential habitat for the Boorolong Frog. The disturbance of this habitat is considered minor in the context of similar habitat in the surrounding area, The loss of potential habitat from the works would constitute less than 1% of similar habitat adjacent to the development footprint. The loss of 0.06 ha of potential habitat from the proposed work is unlikely to decrease the size of the population of this species.
b) Will the action reduce the area of occupancy of a species?
Booroolong Frog

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:
A known population of this species is not known to occur within the development footprint. The proposed work would disturb 0.06 ha of potential habitat as a result of constructing the site access track over the unnamed waterway. However, the installation of culverts would allow the species to still freely traverse either side of the waterway, therefore the proposed work would result in a very minor decrease in the area of occupancy for this species
c) Fragment an existing population into two or more populations?
Booroolong Frog
This species was not found within the proposal area. As noted above, the proposed works would disturb 0.06 ha of potential habitat as a result of constructing the site access track over the unnamed waterway. However, the installation of culverts would allow the species to still freely traverse either side of the waterway, therefore the proposed work is not considered likely to fragment or isolate this species into two or more populations.
d) Adversely affect habitat critical to the survival of a species?
Booroolong Frog
There are no areas identified as priority management sites for this species within the development footprint. It is unlikely that this habitat is critical to the survival of this species.
j) Disrupt the breeding cycle of a population?
Booroolong Frog
The Booroolong Frog breeds from spring to early summer and tadpoles metamorphose in late summer to early autumn. With the implementation of the recommended mitigation measures including commencing construction outside the breeding season and metamorphose period it is unlikely that this proposal would disrupt the breeding cycle of an important population of this species.
k) Will the action modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline?
Booroolong Frog
The proposal is not expected to significantly reduce the potential habitat for this species. The proposal is not expected to modify, destroy, remove, isolate or decrease the availability or quality of habitat for this species such that it is likely to decline. The area of impact is minor in consideration of the local context and the habitat already experiences disturbances from previous clearing and agricultural practices.
l) Will the action result in invasive species that are harmful to a critically endangered or endangered species becoming established in the critically endangered or endangered species' habitat?
A number of weeds have been recorded on the site. The proposal has the potential to contribute to the spread of invasive species in the development area through the transfer and introduction of plant material and soil on machinery. Mitigation measures have been recommended to prevent the spread of weeds on site. This includes regular checking and cleaning of vehicles and plant. The proposal would therefore be unlikely to result in invasive species that are harmful to these species becoming established

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:
in their potential habitat.
m) Will the action introduce disease that may cause the species to decline?
The proposal has the potential to contribute to the spread of disease in the development area through the transfer and introduction of plant material and soil on machinery. Mitigation measures have been recommended to prevent the spread of weeds on site. This includes regular cleaning of all vehicles and machinery. The proposal would therefore be unlikely to result in invasive species that are harmful to these species becoming established in their potential habitat.
n) Will the action interfere substantially with the recovery of the species?
Booroolong Frog
There is currently no National Recovery Plan for the Booroolong Frog. The following priority recovery and threat abatement actions for this species as outlined in the Conservation Advice are as follows: • Protect known sites from disturbance • Prevent the spread of disease during monitoring, research and survey activities • Determine the current distribution and abundance of the Booroolong Frog through further surveys. As above, the proposal is not expected to significantly reduce the potential habitat for this species. The proposal would result in the disturbance of 0.06 ha of potential habitat. No know sites for the Boorolong Frog occur within the development footprint. With the implementation of the recommended mitigation measures, the proposal would not interfere with any of the priority recovery and threat abatement actions.

Appendix H Koala SEPP 2021 FAQs

Koala SEPP 2021

Frequently Asked Questions

March 2021

State Environmental Planning Policy (Koala Habitat Protection) 2021 ("Koala SEPP 2021")

This document answers frequently asked questions about Koala SEPP 2021

What's the current status?

The *State Environmental Planning Policy (Koala Habitat Protection) 2021* (referred to here as "**Koala SEPP 2021**") was made and commenced on 17 March 2021.

The principles of the Koala SEPP 2021 are to help koalas thrive by ensuring koala habitat is properly considered during the development assessment process, and to provide a process for councils to strategically manage koala habitat through the development of koala plans of management.

As an interim measure, the existing Koala SEPP 2020 will continue to apply in NSW core rural zones RU1, RU2 and RU3, except in the Blue Mountains, Campbelltown, Central Coast, Hawkesbury, Hornsby, Ku-Ring-Gai, Liverpool, Northern Beaches and Wollondilly where Koala SEPP 2021 will apply across all zones.

Why are there two Koala SEPPs?

Currently, two Koala SEPPs apply in NSW:

- The *State Environmental Planning Policy (Koala Habitat Protection) 2020*, which commenced on 30 November 2020 and largely reinstates the policy framework of SEPP 44, and
- The *State Environmental Planning Policy (Koala Habitat Protection) 2021*, which commenced on 17 March 2021 and largely reinstates the policy framework of the 2019 Koala SEPP.

This is an interim measure while new codes that include protections for high value koala habitat under the Local Land Services Act 2013 are developed as announced on 8 March. The new codes will decouple core rural zones in rural areas for land management purposes from core koala habitat identified through future Koala Plans of Management under the Koala SEPP.

Once the codes are updated, the 2020 SEPP will be repealed, and the 2021 SEPP will apply to all zones in the 83 LGAs. At that time, Development Consent requirements for Private Native Forestry (PNF) will be removed.

Which SEPP applies to me?

The SEPP that applies is determined by the relevant LGA and land use zone.

The 2020 SEPP applies to RU1, RU2 and RU3 zoned land in 74 of the 83 LGAs (Refer to list at Appendix A). For the remaining zones in these 74 LGAs, the 2021 SEPP applies.

The 2021 SEPP applies to all zones in nine of the 83 LGAs (Blue Mountains, Campbelltown, Central Coast, Hawkesbury, Hornsby, Ku-Ring-Gai, Liverpool, Northern Beaches, and Wollondilly).

Can both SEPPs apply to one property?

Yes. If a property has two land zones and each is covered by a different Koala SEPP, then both SEPPs must be considered in a development application. For example, if part of the property is zoned RU1, and another part is E2, then the 2020 SEPP must be considered on the RU1 portion and the 2021 SEPP must be considered on the E2 portion.

What are the key differences between the 2019 and 2021 SEPPs?

The 2021 SEPP largely replicates the provisions which existed under the repealed 2019 SEPP, as it stood when it was in force immediately before its repeal in November 2020, with a few key differences:

- The 2021 SEPP does not apply to land zoned RU1, RU2 or RU3, unless it falls within the nine specified LGAs (*see Appendix A*).
- There is a new provision for the Secretary of the Department of Regional NSW (DRNSW) to have a concurrence role on any future KPoMs. In future, a similar provision will apply to future editions of the Koala Habitat Protection Guideline. This means that both DRNSW and DPIE need to approve these documents.
- There is a provision that approved and made the Tweed and Byron Shire KPoMs and extends the application of clause 10 of the 2021 SEPP to land covered by these KPoMs, regardless of the underlying zoning of the land.

What happens once the Private Native Forestry (PNF) Codes of Practice and the Land Management Code are updated?

The changes are summarised in this table.

Current	After PNF Codes and Land Management Code are updated
The Koala SEPP **interacts** with PNF and the Land Management Code	There will be **no link** between the Koala SEPP and PNF Code of Practice.
If land is identified as *core koala habitat* in an approved *Koala Plan of Management (KPoM)*: ○ the PNF Codes prohibit PNF on this land ○ the land becomes Category 2 Sensitive Regulated Land under the Local Land Services Act 2013. This classification limits the range of 'allowable activities' that can be carried out on that land without approval.	If land is identified as *core koala habitat* in an approved *Koala Plan of Management (KPoM)*: ○ there will be no effect on PNF or activities under the Local Land Services Act. ○ Instead, koala habitat will be protected through the updated codes.
	Requirements for development consent for PNF will be removed through the 2021 SEPP.
	The code updates will be made by the Minister for Agriculture and Regional NSW with the agreement of the Minister for Environment.

When will the Koala Habitat Protection Guideline be published?

The Koala Habitat Protection Guideline (the Guideline) will be published once the Local Land Services Codes are updated. When this occurs, the land application of the 2021 SEPP will be extended to cover all land zones in all 83 LGAs.

In the interim, the Department has released a fact sheet to guide development applications under the 2021 SEPP.

Does a Koala Plan of Management (KPoM) apply to me?

There are currently nine approved comprehensive KPOMs across NSW:

- Ballina
- Bellingen
- Campbelltown
- Coffs Harbour
- Kempsey
- Lismore
- Port Stephens
- Byron
- Tweed.

Development applications lodged in any of these LGAs will need to comply with the requirements of the relevant KPoM. These KPoMs are considered to be approved plans under the 2021 SEPP.

Can a council prepare a KPoM if both SEPPs apply?

Yes, but a KPoM must be made under one SEPP – either the 2020 SEPP or 2021 SEPP.

If a council wishes to prepare a KPoM under the 2021 SEPP, at present it is not possible for the KPoM to apply to land that is covered by the 2020 SEPP (that is, RU1, RU2 or RU3 zoned land outside of the nine listed LGAs).

What is the process for rezoning land? And is this different if the land has been identified in a KPoM?

Land is rezoned in NSW through the planning proposal and gateway review processes. Planning proposals can be initiated by councils, developers, or landholders, and are managed by councils and the Department. More information about this process can be found here.

The Minister for Planning will issue a direction under the *Environmental Planning and Assessment Act 1979* that will prevent councils from rezoning land used for primary production to an environment zone, or to rezone land currently in rural zones 1, 2 and 3 to other rural zones. All future planning proposals of this nature will be considered by the Department.

Appendix A – Koala SEPP framework by LGA

LGA	Koala SEPP 2020	Koala SEPP 2021
Armidale Regional	Land zone RU1, RU2, RU3	Applies
Ballina	Land zone RU1, RU2, RU3	Applies
Bathurst Regional	Land zone RU1, RU2, RU3	Applies
Bega Valley	Land zone RU1, RU2, RU3	Applies
Bellingen	Land zone RU1, RU2, RU3	Applies
Berrigan	Land zone RU1, RU2, RU3	Applies
Blayney	Land zone RU1, RU2, RU3	Applies
Bourke	Land zone RU1, RU2, RU3	Applies
Brewarrina	Land zone RU1, RU2, RU3	Applies
Byron	Land zone RU1, RU2, RU3	Applies
Cabonne	Land zone RU1, RU2, RU3	Applies
Central Coast	Does not apply	Applies to all zones
Central Darling	Land zone RU1, RU2, RU3	Applies
City of Blue Mountains	Does not apply	Applies to all zones
City of Campbelltown	Does not apply	Applies to all zones
City of Cessnock	Land zone RU1, RU2, RU3	Applies
City of Coffs Harbour	Land zone RU1, RU2, RU3	Applies
City of Hawkesbury	Does not apply	Applies to all zones
City of Lake Macquarie	Land zone RU1, RU2, RU3	Applies
City of Lismore	Land zone RU1, RU2, RU3	Applies
City of Lithgow	Land zone RU1, RU2, RU3	Applies
City of Liverpool	Does not apply	Applies to all zones
City of Maitland	Land zone RU1, RU2, RU3	Applies
City of Newcastle	Land zone RU1, RU2, RU3	Applies
City of Shoalhaven	Land zone RU1, RU2, RU3	Applies
City of Wagga Wagga	Land zone RU1, RU2, RU3	Applies
City of Wollongong	Land zone RU1, RU2, RU3	Applies
Clarence Valley	Land zone RU1, RU2, RU3	Applies
Coonamble Darling	Land zone RU1, RU2, RU3	Applies
Dungog	Land zone RU1, RU2, RU3	Applies
Edward River	Land zone RU1, RU2, RU3	Applies
Eurobodalla	Land zone RU1, RU2, RU3	Applies
Federation	Land zone RU1, RU2, RU3	Applies
Forbes	Land zone RU1, RU2, RU3	Applies
Gilgandra	Land zone RU1, RU2, RU3	Applies
Glen Innes Severn Shire	Land zone RU1, RU2, RU3	Applies
Goulburn Mulwaree	Land zone RU1, RU2, RU3	Applies
Greater Hume Shire	Land zone RU1, RU2, RU3	Applies
Gunnedah	Land zone RU1, RU2, RU3	Applies
Gwydir	Land zone RU1, RU2, RU3	Applies
Hilltops	Land zone RU1, RU2, RU3	Applies

Hornsby	Does not apply	Applies to all zones
Inverell	Land zone RU1, RU2, RU3	Applies
Kempsey	Land zone RU1, RU2, RU3	Applies
Ku-ring-gai	Does not apply	Applies to all zones
Kyogle	Land zone RU1, RU2, RU3	Applies
Leeton	Land zone RU1, RU2, RU3	Applies
Liverpool Plains	Land zone RU1, RU2, RU3	Applies
Lockhart	Land zone RU1, RU2, RU3	Applies
Mid-Coast	Land zone RU1, RU2, RU3	Applies
Mid-Western Regional	Land zone RU1, RU2, RU3	Applies
Moree Plains	Land zone RU1, RU2, RU3	Applies
Murray River	Land zone RU1, RU2, RU3	Applies
Muswellbrook	Land zone RU1, RU2, RU3	Applies
Nambucca Valley	Land zone RU1, RU2, RU3	Applies
Narrabri	Land zone RU1, RU2, RU3	Applies
Narrandera	Land zone RU1, RU2, RU3	Applies
Narromine	Land zone RU1, RU2, RU3	Applies
Northern Beaches	Does not apply	Applies to all zones
Oberon	Land zone RU1, RU2, RU3	Applies
Parkes	Land zone RU1, RU2, RU3	Applies
Port Macquarie-Hastings	Land zone RU1, RU2, RU3	Applies
Port Stephens	Land zone RU1, RU2, RU3	Applies
Queanbeyan-Palerang Regional	Land zone RU1, RU2, RU3	Applies
Richmond Valley	Land zone RU1, RU2, RU3	Applies
Singleton	Land zone RU1, RU2, RU3	Applies
Snowy Monaro	Land zone RU1, RU2, RU3	Applies
Snowy Valleys	Land zone RU1, RU2, RU3	Applies
Tamworth	Land zone RU1, RU2, RU3	Applies
Tenterfield	Land zone RU1, RU2, RU3	Applies
Tweed	Land zone RU1, RU2, RU3	Applies
Upper Hunter Shire	Land zone RU1, RU2, RU3	Applies
Upper Lachlan Shire	Land zone RU1, RU2, RU3	Applies
Uralla	Land zone RU1, RU2, RU3	Applies
Walcha	Land zone RU1, RU2, RU3	Applies
Walgett	Land zone RU1, RU2, RU3	Applies
Warren	Land zone RU1, RU2, RU3	Applies
Warrumbungle	Land zone RU1, RU2, RU3	Applies
Weddin	Land zone RU1, RU2, RU3	Applies
Wentworth	Land zone RU1, RU2, RU3	Applies
Wingecarribee	Land zone RU1, RU2, RU3	Applies
Wollondilly	Does not apply	Applies to all zones
Yass Valley	Land zone RU1, RU2, RU3	Applies

Appendix I Assessing Personnel

This assessment was completed by Julie Gooding and Jessie Russo.

CVs are attached.

Julie Gooding

Bachelor of Science (Biology)

Accredited NSW BAM Assessor (BAAS18074)

KEY PROJECTS

Infrastructure Projects

- Bourke Pipeline
- Glenoak Reservoirs
- 'Croiden' Efficiency Scheme
- Biggara Bridge
- Tullamore Road Reconstruction

Renewable Energy Infrastructure Projects

- Coleambally Solar Farm
- Wellington Solar Fam
- North Wagga Solar Farm
- Gregadoo Solar Farm
- Wellington North Solar Farm
- Avonlie Solar Farm

Natural Resource Management Projects

- Lake Cowal Gold Mine

Ecologist

Julie has an undergraduate degree in science, majoring in Biology and Environmental Sciences from the University of Wollongong and further education in Project Management, Horticulture, Bushland Management and Training.

Julie has over eight years' experience in vegetation management and assessment through the preparation of Biodiversity Assessments, Property Vegetation Plan Contracts, Bushland Regeneration Management Plans, Flora Assessments and Targeted Weed Surveys. She has worked in both government and the private sector in New South Wales and Victoria.

Julie has conducted numerous flora and fauna surveys across a range of biogeographic areas including the South West Slopes, Riverina and Western Plains. She has experience in Plant Community Type identification and vegetation mapping.

Julie has completed her training in the NSW Biodiversity Assessment Methodology (BAM) under the NSW Biodiversity Conservation Act 2016 and is an accredited BAM Assessor.

Tertiary Qualification

University of Wollongong
Bachelor of Science (Biology)

Professional Experience

Ecologist, NGH

2016 - present

- Undertake ecological surveys including Flora Surveys and Vegetation Integrity plots using the BAM methodology
- Undertake Plant Community Type Classification and identification of Threatened Ecological Communities
- Undertake targeted threatened flora and fauna searches and habitat assessments
- Prepare Biodiversity Assessments, Biodiversity Development Assessment Reports (BDAR) and REF's'
- Experience in ARCGIS 10.1 for vegetation mapping, spatial analysis and producing high quality maps.
- Preclearing Surveys and clearing Supervision

Natural Resource Officer, Murrumbidgee Catchment Management Authority

2012 - 2013

- Prepared Property Vegetation Plans contracts with Landholders for Revegetation and Conservation Projects.
- Undertook Site Assessments, Including Biometric Assessments, Soil and Land Capability Assessments and Threatened Species Assessments for developing contracts and monitoring past projects.
- Created project maps using ARCGIS Software
- Supported and effectively communicated with stakeholders such as landcare groups, landholders and community groups.
- Prepared ecological management plans including Review of Environmental Factors.

Pest Management Officer (Weeds), Department of Primary Industries Victoria

2009 – 2011

- Monitored and treated State Prohibited Weeds in the Port Phillip Catchment through negotiating and providing regulatory advice to landholders and stakeholders.
- Understood and followed rules, policies and legislation as an authorized officer of the Catchment and Land Protection Act 1994.
- Conducted Field survey and GPS mapping of State Prohibited Weeds in Victoria
- Trained Council Staff and community weed spotters in State Prohibited Weed identification
- Project Management of Catchment Field Operations.

Revegetation Officer, City of Casey, Victoria

2008

- Coordinated the Growing a Green Web Revegetation program
- Organised and ran school and community tree planting days
- Provided native vegetation advice to the community and council staff
- Prepared tenders for environmental contractors and nurseries

Bushland Regeneration Supervisor, Central Coast Community Environment Network

2006 – 2007

- Supervised Bushland Regeneration Works and Native Seed Collection on private lands as part of the Conservation on Private Lands Project.
- Prepared Bushland Regeneration Work Plans in consultation with private landholders.
- Educated and provided support to landholders and team members
- Facilitated Community Bush Regeneration Workshops
- Created Project Maps using GIS Software

Bushland Regenerator, Bush Habitat Co-op/Toolijooa Environmental Restoration

2005 – 2006

- Worked in a team, restoring bushland in various reserves in Sydney through weed removal, assisting natural regeneration and tree planting
- Responsible for conducting flora surveys to assess management techniques

Additional Qualifications and Skills

Training

- Current OHS General Induction for Construction Work (White Card)
- Cert III Conservation and Land Management (Natural Area Restoration) – Ryde TAFE
- Native Grasses Identification – Tocal College
- ARCGIS Basics – RMIT University
- Senior First Aid

Jessie Whieldon

Bachelor of Environmental Science (Land Resources)

KEY PROJECTS

- Jindera Solar Farm
- Flyer's Creek Wind Farm
- Wellington Solar Farm
- WWCC Rising Main Replacement
- Combined Paraways Water Efficiency Scheme
- Borambola Road
- Newell Highway Alliance
- Binda Road
- Gundagai Sewerage Treatment Plant Upgrade
- Yass Valley Bridges
- Wee Jasper Road Rehabilitation
- Nail Can Hill Fire Trail Upgrade
- Murrumbateman Winery Trail
- Gregadoo Solar Farm
- Culcairn Solar Farm
- Yanco Solar Farm
- Echuca Moama Bridge Crossing
- Evolution Mining Weed Survey
- Museum of the Riverina
- CSU equine isolation facility

Environmental Consultant

Jessie has been an Environmental Consultant with NGH since 2018. Jessie has a sound knowledge of biodiversity in New South Wales and experience in a range of ecological survey methods across a range of biogeographic areas including the South West Slopes, Riverina and Western Plains. She has experience in Plant Community Type identification and vegetation mapping.

Jessie has a Bachelor degree from the University of Wollongong where she studied a range of subjects including environmental impact assessment, ecology, soils, spatial analysis and conservation biology.

Tertiary Qualification

University of Wollongong
Bachelor of Environmental Science (Hons) (Land Resources)

Professional Experience

Environmental Consultant, NGH

2018 - present

- Preparation of Environmental Impact Assessments, Reviews of Environmental Factors, Biodiversity Assessments, and Environmental Management Plans
- Undertaking ecological surveys including Flora Surveys and Vegetation Integrity Plots using the BAM methodology
- Undertaking Plant Community Type classification and identification of Threatened Ecological Communities
- Undertaking targeted threatened flora and fauna searches and habitat assessments
- Experience in ARCGIS 10.1 for vegetation mapping, spatial analysis and producing high quality maps.

Additional Qualifications and Skills

Training

- Provide First Aid and CPR
- National WHS General Construction Induction
- Reservist in the Australian Army
- Rail Industry Worker Card