

Final Report

# Biodiversity Assessment for proposed Brine Ponds: Fosterville Gold Mine, Fosterville, Victoria

Prepared for  
**Kirkland Lake Gold Pty Ltd**

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Ecology and Heritage Partners Pty Ltd

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## SUMMARY OF CLAUSE 52.17 APPLICATION REQUIREMENTS

**Table S1.** Application requirements for a permit to remove native vegetation (Victoria Planning Provisions Clause 52.17; DELWP 2017)

No.	Application Requirement	Response
Application requirements under the Detailed Assessment Pathway		
1	Information about the native vegetation to be removed, including: <ul style="list-style-type: none"> <li>The assessment pathway and reason for the assessment pathway;</li> <li>A description of the native vegetation to be removed;</li> <li>Maps showing the native vegetation and property in context; and</li> <li>The offset requirement that will apply if the native vegetation is approved to be removed.</li> </ul>	Refer to Section 3.1, Section 3.3 and Appendix 3 (NVR Report)
2	Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate.	Refer to Section 1.2 and Figure 1
3	Recent dated photographs of the native vegetation to be removed.	Refer to Section 3.1
4	Details of any other native vegetation that was permitted to be removed on the same property with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before the application to remove native vegetation is lodged.	13.451 hectares of native vegetation has been removed within the property within the past five years
5	An avoid and minimise statement. The statement describes any efforts to avoid the removal of and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value.	Refer to Section 5.1
6	A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the <i>Conservation, Forests and Lands Act 1987</i> that applies to the native vegetation to be removed.	Not applicable
7	Where the removal of native vegetation is to create defensible space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required when the creation of defensible space is in conjunction with an application under the Bushfire Management Overlay.	Not applicable as the vegetation clearance is not for defensible space
8	If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8.	Not applicable as the application responds to Clause 52.17
9	An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines.	Refer to Section 5.3

No.	Application Requirement	Response
10	<p>A site assessment report of the native vegetation to be removed, including:</p> <ul style="list-style-type: none"> <li>• A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status.</li> <li>• The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches.</li> <li>• The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large.</li> </ul>	<p>Refer to Figure 2, Appendix 1.2 (habitat hectares assessment) and Appendix 1.3 (tree information)</p>
11	<p>Information about impacts on rare or threatened species habitat, including the relevant section of the Habitat importance map for each rare or threatened species requiring a species offset.</p>	<p>Refer to Appendix 3 (NVR Report)</p>

# 1 INTRODUCTION

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## 1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Kirkland Lake Gold Pty Ltd to provide an updated Biodiversity Assessment for the construction of Brine Ponds at the Fosterville Gold Mine, Fosterville, Victoria.

Ecology and Heritage Partners have previously undertaken a Biodiversity Assessment for the proposed Brine Ponds (Ecology and Heritage Partners 2017; our ref: 9352), which was in accordance with Victoria's *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (the Guidelines) (DEPI 2013). In December 2017, the BAG was replaced by the Guidelines for the *Removal, Destruction or Lopping of Native Vegetation* (the Guidelines) (DELWP 2017). As such, the previous report is required to be updated to reflect the current vegetation policy outlined in the Guidelines (DELWP 2017).

In addition, the previous report did not discuss the potential implications of the project under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* or Victoria's *Flora and Fauna Guarantee Act 1988*.

As such, the purpose of this updated assessment was to identify the extent and type of native vegetation present within the study area and to determine the likely presence of significant flora and fauna species and/or ecological communities. This report presents the results of the assessment and discusses the potential ecological and legislative implications associated with the proposed action.

## 1.2 Study Area

The study area is located at Fosterville Gold Mine, Fosterville and is approximately 25 kilometres east of the Bendigo Central Business District (Figure 1). The mine is located at McCormicks Road, Fosterville, and is bound by Axedale-Goornong Road to the east, Mount Sugarloaf Conservation Reserve to the west, and bushland and paddocks to the north and south (Figure 1).

Specifically, the study area encompasses an area of approximately 20 hectares, bound by Campaspe Road to the north, Wellsford State Forest to the west, a private road to the south and is largely bound to the east by a drainage line.

The majority of the vegetation within the study area has previously been cleared as a result of agricultural and residential use. The site previously supported a residential dwelling and several recreational horse arenas have been constructed within the study area. A creek runs adjacent to the eastern boundary of the study area, which intersect a series of manmade waterbodies and dams. Several unsealed roads/tracks also occur throughout the property.

According to the Department of Environment, Land, Water and Planning (DELWP) NatureKit Map (DELWP 2021a), the study area is located within the Goldfields bioregion, North Central Catchment Management Authority (CMA) and City of Greater Bendigo.

## 2 METHODS

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### 2.1 Desktop Assessment

Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the study area. The following information sources were reviewed:

- The DELWP NatureKit Map (DELWP 2021a) and Native Vegetation Information Management (NVIM) Tool (DELWP 2021b) for:
  - Modelled data for location risk, native vegetation patches, scattered trees and habitat for rare or threatened species; and,
  - The extent of historic and current Ecological Vegetation Classes (EVCs).
- EVC benchmarks (DELWP 2021c) for descriptions of EVCs within the relevant bioregion;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within the project locality (DELWP 2021d);
- The Illustrated Flora Information System of Victoria (IFLISV) (Gullan 2017) and Atlas of Living Australia (ALA) (ALA 2021) for assistance with the distribution and identification of flora species;
- Birdlife Australia (2021) for detailed descriptions and distributions of birds (both native and exotic);
- The Commonwealth Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool (PMST) for matters of National Environmental Significance (NES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DAWE 2021);
- Grey Box (*Eucalyptus microcapra*) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia: A guide to the identification, assessment and management of a nationally threatened ecological community Environment Protection and Biodiversity Conservation Act 1999 (DSEWPac 2012);
- Conservation Advice for Swift Parrot *Lathamus discolor* (TSSC 2016);
- Relevant listings under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), including the latest Threatened (DELWP 2019a) and Protected (DELWP 2019b) Lists;
- The online VicPlan Map (DELWP 2021e) to ascertain current zoning and environmental overlays in the study area;
- Aerial photography of the study area; and
- Previous ecological assessments relevant to the study area; including;
  - Biodiversity Assessment for proposed Brine Ponds within Fosterville Gold Mine. Ecology and Heritage Partners 2017.



## 2.2 Field Assessment

A field assessment was undertaken on 4 May 2017 to obtain information on flora and fauna values within the study area. The study area was walked, with all commonly observed vascular flora and fauna species recorded, significant records mapped and the overall condition of vegetation and habitats noted. Ecological Vegetation Classes (EVCs) were determined with reference to DELWP pre-1750 and extant EVC mapping (DELWP 2021a) and their published descriptions (DELWP 2021c).

Where native vegetation was identified a habitat hectare assessment was undertaken following methodology described in the Vegetation Quality Assessment Manual (Department of Sustainability and Environment (DSE) 2004).

In addition, a further field assessment was undertaken on 01 July 2021 to map individual Large Old Trees and Scattered Trees in accordance with the Guidelines (DELWP 2017), as well as to undertake a likelihood of occurrence assessment for significant ecological values within the study area.

## 2.3 Removal, Destruction or Lopping of Native Vegetation (the Guidelines)

The clearing of native vegetation for mining and extractive industries is exempt from the requirement for a planning permit under the Planning and Environment Act 1987 subject to an assessment as part of the work plan approval process (Mineral Resources [Sustainable Development] Act 1990). The removal of native vegetation for the Earth Resources Industry (ERI) is regulated through the Mining and Extractive Industry Work Approvals Process. A Memorandum of Understanding (MoU) between the former Department of Sustainability and Environment (DSE) and Department of Primary Industries (DPI) recognises that native vegetation should be offset in accordance with the relevant environmental policy. As such the requirements for removing native vegetation within the study area was assessed against Victoria’s Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines) (DELWP 2017).

### 2.3.1 Assessment Pathway

The Guidelines manage the impacts on biodiversity from native vegetation removal using an assessment-based approach. Two factors – extent risk and location category – are used to determine the risk associated with an application for a permit to remove native vegetation. The location category (1, 2 or 3) has been determined for all areas in Victoria and is available on DELWP’s NVIM Tool (DELWP 2021b). Determination of assessment pathway is summarised in Table 1.

**Table 1.** Assessment pathways for applications to remove, destroy or lop native vegetation (DELWP 2017).

Extent		Location		
		1	2	3
Native Vegetation	Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
	Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
	0.5 hectares or more	Detailed	Detailed	Detailed

**Notes:** For the purpose of determining the assessment pathway of an application to remove native vegetation the extent includes any other native vegetation that was permitted to be removed on the same contiguous parcel of land with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before an application to remove native vegetation is lodged.

### 2.3.2 Vegetation Assessment

Native vegetation (as defined in Table 2) is assessed using two key parameters: extent (in hectares) and condition. For the purposes of this assessment, both condition and extent were determined as part of the habitat hectare assessment.

**Table 2.** Determination of a patch of native vegetation (DELWP 2017).

Category	Definition	Extent	Condition
<b>Patch of native vegetation</b>	An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; OR An area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; OR any mapped wetland included in the <i>Current Wetlands map</i> , available in DELWP systems and tools.	Measured in hectares. Based on hectare area of the native patch.	Vegetation Quality Assessment Manual (DSE 2004).  Modelled condition for <i>Current Wetlands</i> .
<b>Scattered tree</b>	A native canopy tree that does not form part of a native patch.	Measured in hectares. Each Large scattered tree is assigned an extent of 0.071 hectares (15m radius). Each Small scattered tree is assigned a default extent of 0.031 hectares (10 metre radius)	Scattered trees are assigned a default condition score of 0.2 (outside a patch).

**Notes:** Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.

### 2.3.3 Impact Avoidance and Minimisation

All applications to remove native vegetation must demonstrate the three-step approach of avoid, minimise and offset. This is a precautionary approach that aims to ensure that the removal of native vegetation is restricted to what is reasonably necessary, and that biodiversity is appropriately compensated for any native vegetation removal that is approved.

### 2.3.4 Offsets

Biodiversity offsets are required to compensate for the permitted removal of native vegetation. Offset obligations and offset site criteria are determined in accordance with the Guidelines (DELWP 2017) and are divided into two categories, being General Habitat Units and Species Habitat Units.

The offset requirements for native vegetation removal are calculated by DELWP and presented in a Native Vegetation Removal (NVR) Report, which are based on the vegetation condition scores determined during the biodiversity assessment.

## 2.4 Likelihood of Occurrence Assessment

Relevant biological databases, literature and expert advice were used to identify all species records of national, State and regional conservation significance within 10 kilometres of the study area. The proximity, number, dispersion and date of known locality records (assuming over-dispersed and random patterns of locality records being more likely to occur in the study area) were considered to determine a species' likelihood of occurrence within the study area.

Additional factors also taken into consideration include: the known biogeographical distribution of the species; underlying geology of existing locality records; and, vegetation and habitat associations. The decision guidelines for determining the likelihood of occurrence of flora and fauna species are presented in Table 3 and Table 4, respectively.

The results of the likelihood of occurrence assessment for listed flora and fauna species are provided in Appendices 1.4 and 2.1, respectively.

All significant flora and fauna species considered to have the highest likelihood of occurrence within potential habitats within the study area are discussed in the body of this report.

**Table 3.** Decision guidelines for determining a flora species likelihood of occurrence within the study area.

Likelihood of occurrence	Ecology and Heritage Partners Decision Criteria
<b>1 – Known occurrence</b>	Recorded within the study area recently (i.e. within ten years).
<b>2 - High</b>	Previous records of the species in the local vicinity; and/or, the study area contains areas of high-quality habitat.
<b>3 – Moderate</b>	Limited previous records of the species in the local vicinity; and/or, the study area contains some characteristics of the species' preferred habitat.
<b>4 – Low</b>	Poor or limited habitat for the species however other evidence (such as a lack of records or environmental factors) indicates there is a very low likelihood of presence.
<b>5 – Unlikely</b>	No suitable habitat and/or outside the species range.

**Table 4.** Decision guidelines for determining fauna species likelihood of occurrence within the study area.

Likely presence or use of the study area	Ecology and Heritage Partners Decision Criteria
<b>1 - High</b>	Known resident in the study area based on site observations, database records, or expert advices; and/or, recent records (i.e. within five years) of the species in the local area; and/or, the study area contains the species' preferred habitat.
<b>2 - Moderate</b>	The species is likely to visit the study area regularly (i.e. at least seasonally); and/or, previous records of the species in the local area; and/or, the study area contains some characteristics of the species' preferred habitat.

Likely presence or use of the study area	Ecology and Heritage Partners Decision Criteria
<b>3 - Low</b>	The species may visit the study area occasionally or opportunistically whilst en route to more suitable sites; and/or, there are only limited or historical records of the species in the local area (i.e. more than 20 years old); and/or, the study area contains few or no characteristics of the species' preferred habitat.
<b>4 - Unlikely</b>	No previous records of the species in the local area; and/or, the species may fly over the study area when moving between areas of more suitable habitat; and/or, out of the species' range; and/or, no suitable habitat present.

## 2.5 Assessment Qualifications and Limitations

This report has been written based on the quality and extent of the ecological values and habitat considered to be present or absent at the time of the desktop and/or field assessments being undertaken.

The field assessment was undertaken during a sub-optimal season for the identification of flora and fauna species (i.e. autumn/winter). The 'snapshot' nature of a standard biodiversity assessment, along with sub-optimal timing of the survey, meant that migratory, transitory or uncommon fauna species may have been absent from typically occupied habitats at the time of the field assessment. In addition, annual or cryptic flora species such as those that persist via underground tubers may also be absent.

A comprehensive list of all terrestrial flora and fauna present within the study area was not undertaken as this was not the objective of the assessment. Rather a list of commonly observed species was recorded to inform the habitat hectare assessment and assist in determining the broader biodiversity values present within the study area.

Ecological values identified within the study area were recorded using a hand-held GPS or tablet with an accuracy of +/-5 metres. This level of accuracy is considered to provide an accurate assessment of the ecological values present within the study area; however, this data should not be used for detailed surveying purposes.

In addition, Ecology and Heritage Partners previously consulted with Erin Simpson (former Environment and Community Advisor, Fosterville Gold Mine), to understand the recent history of the study area, including any past disturbances or rehabilitation works that may be relevant to the assessment.

The terrestrial flora and fauna data collected during the field assessment and information obtained from relevant desktop sources is considered to adequately inform an accurate assessment of the ecological values present within the study area.

## 3 RESULTS

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### 3.1 Vegetation Condition

Several patches of native vegetation and scattered native trees were recorded within the study area. The remainder of the study area comprised introduced and planted vegetation, present as pasture grass and ornamental gardens.

A list of all flora species recorded during the field assessment are provided in Appendix 1.1.

#### 3.1.1 Patches of Native Vegetation

Native vegetation in the study area is representative of one EVC: Box Ironbark Forest (EVC 61). The presence of this EVC is generally consistent with the modelled pre-1750s native vegetation mapping (DELWP 2021c). However, the majority of the vegetation within the study area has previously been cleared as a result of agricultural and residential use, and was dominated by introduced flora species.

Specific details relating to the observed EVC are provided below.

The results of the habitat hectare assessment are provided in Appendix 1.2.

#### **Box Ironbark Forest**

Box Ironbark Forest is characterised by an open overstorey to 20 metres tall consisting of a variety of eucalypts, often including one of the Ironbark species. The mid storey typically forms a dense to open small tree or shrub layer over an open ground layer ranging from a sparse to well-developed suite of herbs and grasses (DELWP 2021c).

Box Ironbark Forest was recorded within the study area in poor condition (Figure 2). The overstorey was generally dominated by Waxy Yellow Gum *Eucalyptus leucoxylon* subsp. *pruinosa*. The understorey was generally dominated by a range of exotic grasses and herbs, including Annual Veldt-grass *Ehrharta longiflora*, Barley Grass *Hordeum leporinum*, Soft Brome *Bromus hordeaceus*, Toowoomba Canary-grass *Phalaris aquatica*, Black Nightshade *Solanum nigrum*, Cape Weed *Arctotheca calendula* and Mallow of Nice *Malva nicaeensis* (Plates 1 and 2). However, some areas contained a sparse understorey of Spear Grasses *Austrostipa* spp. and Common Wallaby-grass *Rytidosperma caespitosum*, with occasional shrubs and herbs such as Australian Carrot *Daucus glochidiatus* and Grassland Wood-sorrel *Oxalis perennans*, Golden Wattle *Acacia pycnantha* and Gold-dust Wattle *Acacia acinacea*.

Waxy Yellow Gum was regenerating throughout the study area (Plate 3), which is likely to have occurred since the removal of stock within the first five years following the purchase of the site by Fosterville Gold Mine. At the time of the previous (undertaken 4 May 2017) and current assessments (undertaken 1 July 2021), the regeneration did not meet the minimum size thresholds to be classed as scattered trees (<3 metres in height and mature). It is also exempt from requiring native vegetation offsets under Clause 52.17-7 of the Greater Bendigo planning scheme (Regrowth from approved vegetation removal <10 years old).



**Plate 1.** Native vegetation (Box Ironbark Forest) within the study area in poor condition with lack of native understorey (Ecology and Heritage Partners Pty Ltd 01/07/2021).



**Plate 2.** Native vegetation (Box Ironbark Forest) within the study area in poor condition with lack of native understorey (Ecology and Heritage Partners Pty Ltd 01/07/2021).



**Plate 3.** Regeneration within the study area (Ecology and Heritage Partners Pty Ltd 01/07/2017).

### 3.1.2 *Large Trees in Patches*

A total of 18 Large Trees (LTs) in Box Ironbark patches were present (Figure 2). All specimens were Waxy Yellow-gum or Grey Box (Plate 4; Plate 5; Appendix 1.3).



**Plate 4.** Large Tree (Waxy Yellow-gum) in Box Ironbark Forest patch (Ecology and Heritage Partners Pty Ltd 01/07/2021).



**Plate 5.** Large Tree (Waxy Yellow-gum) in Box Ironbark Forest patch (Ecology and Heritage Partners Pty Ltd 01/07/2021).

### 3.1.3 Scattered Trees

A total of 42 scattered trees (Grey Box and Waxy Yellow-gum) were recorded within the study area, which consisted of 22 large and 20 small scattered trees (Figure 2; Appendix 1.3). These trees would have once formed part of the Box Ironbark Forest EVC; however, the understorey vegetation contained predominantly introduced species (mainly exotic pasture grasses) and the trees no longer formed a patch of native vegetation (Plate 6; Plate 7).



**Plate 6.** A large Scattered Tree (Grey Box) within the study area (Ecology and Heritage Partners Pty Ltd 01/07/2021).



**Plate 7.** A large Scattered Tree (Waxy Yellow-gum) within the study area (Ecology and Heritage Partners Pty Ltd 01/07/2021).

### 3.1.4 *Introduced and Planted Vegetation*

Areas not supporting native vegetation had a high cover (>90%) of exotic grass species, many of which were direct-seeded for use as pasture. Scattered native grasses were generally present in these areas, however they did not have the required 25% relative cover to be considered a patch.

Non-native areas were dominated by environmental weeds such as Annual Veldt-grass, Barley Grass, Soft Brome, Toowoomba Canary-grass, Black Nightshade, Cape Weed and Mallow of Nice.

No noxious weeds, as defined under the CaLP Act, were present within the study area.

Three areas of planted indigenous vegetation (Waxy Yellow Gum) were recorded within the study area (Figure 2; Plates 8 and 9). Evidence of the trees being planted includes tree guards, tree stakes and regular location of trunks in rows. It is considered that these trees were planted by the previous landowner for amenity and animal husbandry purposes (wind rows). The removal of planted native vegetation for this purpose is exempt under Section 52.17-7 of the Greater Bendigo planning scheme (planted vegetation). As such, vegetation offsets for removal of planted trees within the study area is not required.



**Plate 8.** Planted trees within the study area (Ecology and Heritage Partners Pty Ltd 01/07/2021).



**Plate 9.** Planted trees within the study area (Ecology and Heritage Partners Pty Ltd 4/5/2017).

## 3.2 Fauna Habitat

The patches of Box Ironbark Forest within the study area provide potential resources for birds and other arboreal fauna. Eucalypt and Wattle trees provide foraging habitat for nectivores (nectar-eating) and frugivorous (fruit-eating) bird species. Many eucalypts are mature and have the potential to provide an array of small, medium and large hollows, bark fissures and crevices. These are likely to be used for shelter and nesting by a range of hollow-dependent fauna including parrots, microbats, possums, gliders and owls.



The open paddock areas, which contain improved exotic pastures, are likely to be used as a foraging resource by common generalist bird species which are tolerant of modified open areas, as well as a grazing resource for kangaroos.

Fauna observed using this habitat included; Australian Magpie *Cracticus tibicen*, Galah *Eolophus roseicapilla*, Willie Wagtail *Rhipidura leucophrys*, Eastern Grey Kangaroo *Macropus giganteus*, and the introduced European Rabbit *Oryctolagus cuniculus*.

### 3.3 Removal, Destruction or Lopping of Native Vegetation (the Guidelines)

The below clearing scenario is based on the current proposal by Fosterville Gold Mine. It is understood that the majority of native vegetation throughout the study area is proposed to be removed to facilitate the construction of the Brine Ponds (Figure 2).

The total extent of native vegetation to be removed also includes past removals (removals within the past five years). Past removals include 10.92 hectares of native vegetation patches and 2.53 hectares of Scattered Trees.

#### 3.3.1 Vegetation proposed to be removed

The study area is within Location 2, with 16.942 hectares of native vegetation proposed to be removed, including 13.451 hectares of past removals. As such, the permit application falls under the Detailed assessment pathway (Table 5).

Condition scores for vegetation proposed to be removed are provided in Appendix 1.2.

**Table 5.** Removal of Native Vegetation (the Guidelines) (DELWP 2017).

Assessment pathway	Detailed
Location Category	2
Total Extent (past and proposed) (ha)	16.942
Extent of past removal (ha)	13.451
Extent of proposed removal (ha)	3.491
Large Trees (scattered and in patches) to be removed (no.)	37
Small scattered trees to be removed (no.)	20
EVC Conservation Status of vegetation to be removed	Depleted (Box Ironbark Forest)

#### 3.3.2 Offset Targets

The offset requirement for native vegetation removal is 1.105 General Habitat Units and 37 Large Trees.

A summary of proposed vegetation losses and associated offset requirements is presented in Table 6 and the Native Vegetation Removal (NVR) report is presented in Appendix 3.

**Table 6.** Offset Targets.

General Offsets Required	1.105 General Habitat Units
Large Trees	37
Vicinity (catchment/council)	North Central CMA / City of Greater Bendigo
Minimum Strategic Biodiversity Value*	0.397

\*The minimum Strategic Biodiversity Value is 80% of the weighted average score across habitat zones where a General offset is required.

## 3.4 Significance Assessment

### 3.4.1 Flora

The VBA contains records of three nationally significant, six State Significant and 10 regionally significant flora species previously recorded within 10 kilometres of the study area (DELWP 2021d) (Figure 3). The PMST nominated an additional six nationally significant species which have not been previously recorded but have the potential to occur in the locality (DAWE 2021) (Figure 3; Appendix 1.4).

However, none of these species have previously been, or were recorded within the study area during the current assessments. Furthermore, of these species, only one flora species has a moderate likelihood of occurring within the study area based on limited previous records of this species within the local vicinity and poor or limited habitat observed throughout the site (Appendix 1.4).

This species is the regionally significant Sand Rush *Juncus psammophilus*, which was recorded just outside the southwest corner of the study area in 1996. Extant populations are confined to River Red Gum *Eucalyptus camaldulensis* or sometimes Grey Box *Eucalyptus microcarpa* woodlands along the sandy or silty banks of streams or in seasonal swamps and depressions. Therefore, there is potential for this species, to be present along the stream running down the eastern boundary of the study area.

Occasional Golden Wattle *Acacia pycnantha* and Gold-dust Wattle *Acacia acinaceae*, both protected under the Flora and Fauna Guarantee Act (FFG Act), were recorded within the study area.

Given that the study area is highly modified, predominantly comprising pasture paddocks on relatively flat plains, and old mining land (old heap leach pads, process water storage dams and topsoil piles), the landscape context and the proximity of previous records, it is considered highly unlikely to provide suitable habitat for any additional significant species due to the absence of suitable habitat.

### 3.4.2 Fauna

The VBA contains records of four nationally significant, nine State significant and four regionally significant fauna species previously recorded within 10 kilometres of the study area (DELWP 2021d) (Figure 4). The PMST nominated an additional 14 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DAWE 2021) (Figure 4; Appendix 2.1).

However, none of these previous records occurred the study area. Although, of these species, six are considered to have a moderate likelihood of occurring within the study area. That is, the species are likely to

visit the study area regularly, there are previous records of the species in the local area, and/or the study area contains some characteristics of the species' preferred habitat (Appendix 2.1). These species include several woodland bird species that have previously been recorded within close proximity to the study area and are likely to utilise habitat within the study area, for foraging or breeding purposes (Table 7).

However, given the degraded nature of the study area, and its close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve), it is considered unlikely that habitat within the study area provides critical or limiting habitat for these fauna species.

**Table 7.** Fauna Species with a moderate likelihood of occurring within the study area

Species Name	Significance	Habitat Attributes	Distance to closest record
Swift Parrot <i>Lathamus discolor</i>	Nationally Significant	Overwintering habitat consists of eucalypt forests and woodlands consisting primarily Grey Box, Red Ironbark, Mugga Ironbark, Yellow Gum and White Box.	Approx. 5 km
Chestnut-rumped Heathwren <i>Calamanthus pyrrhopygius</i>	State Significant	Inhabits heathlands and woodlands with dense shrub and/or ground-layer vegetation.	Approx. 5 km
Diamond Firetail <i>Stagonopleura guttata</i>	State Significant	Typically found in grassy eucalypt woodlands, where it feeds exclusively on the ground, on grass and herb seeds and green leaves, and insects	Approx. 5 km
White-throated Needletail <i>Hirundapus caudacutus</i>	State Significant	Occur over most types of habitat, however are recorded most often above wooded areas, including open forest. The species roosts in trees amongst dense foliage in the canopy or in hollows	Approx. 8 km
Black-eared Cuckoo <i>Chrysococcyx osculans</i>	Regionally Significant	Typically inhabits dry open woodlands and forests.	Approx. 5 km
Spotted Quail-thrush <i>Cinlosoma punctatum</i>	Regionally Significant	Inhabits a variety of forests with a fairly open understorey. Typically forages entirely on the ground amongst the grass tussocks, logs and rocks.	Approx. 10 km

#### **Swift Parrot *Lathamus discolor***

There are 19 records of the nationally significant Swift Parrot *Lathamus discolor* within 10 kilometres of the study area, the most recent of which is from 2005 (Figure 4). The Swift Parrot is a non-breeding winter migrant to the mainland from Tasmania. It has a restricted breeding area in the east of Tasmania, arriving on the mainland in autumn to spend the winter period in foraging groups inhabiting forests and woodlands in south-east Australia (DSE 2004b). During the winter migration period, flowering eucalypts in woodlands and forests (particularly box-ironbark forests through central Victoria), provide suitable foraging habitat for this species, including the threatened ecological community Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Threatened Species Scientific Committee, 2016). A

major cause of decline is the continual loss of mainland winter-flowering eucalypts on which the overwintering birds are dependent (DSE 2004b).

Swift Parrot typically inhabits eucalypt forests and woodlands consisting of the winter-flowering Grey Box *Eucalyptus microcarpa*, Red Ironbark *Eucalyptus tricarpa*, Yellow Gum *Eucalyptus leucoxylon* and White Box *Eucalyptus albens*, whereby they feed on nectar when the eucalypts are in blossom (DSE 2004b). Given the presence of Grey Box and (Waxy) Yellow-gum within the study area and the close proximity of the Mount Sugarloaf Nature Conservation Reserve, where there are a number of previous Swift Parrot records, it is considered likely that Swift Parrot will opportunistically utilise native vegetation within and adjacent to the study areas proposed for the Brine Ponds.

However, given the apparent modified condition of the majority of the study area and its close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve), it is considered unlikely that the study area provides critical or limiting habitat for the species.

In the context of the broader landscape which offers higher quality and key foraging habitat for Swift Parrot, the study area is only likely to be used opportunistically by the species en route to larger areas of suitable habitat. Furthermore, given the presence of intact areas of habitat surrounding the study area, vegetation connectivity surrounding the study area will be maintained, sustaining passage between key habitat areas. An assessment against the *EPBC Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* is included below (Table 9).

Based on the modified nature of the study area, landscape context and the proximity of previous records, any additional significant fauna species are considered unlikely to rely on habitat within the study area for foraging or breeding purposes due to the lack of suitable and/or important habitat features.

### 3.4.3 Ecological Communities

#### Nationally Significant

Four nationally listed ecological communities are predicted to occur within 10 kilometres of the study area (DAWE 2021):

- Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions;
- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia;
- Natural Grasslands of the Murray Valley Plains; and,
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

#### Buloke Woodlands of the Riverina and Murray -Darling Depression Bioregions

The Buloke Woodlands of the Riverina and Murray Darling Depression Bioregions' ecological community encompasses a number of closely-related woodland communities in which Buloke *Allocasuarina luehmannii* is usually a dominant or co-dominant tree (DSE 2011). The Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions occur substantially within the two named bioregions (Thackway and Cresswell 1995).

However, vegetation within the study area did not meet the condition thresholds that define any of this ecological community due to the notable absence of Buloke.

Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia

The Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia occurs in two forms (DSEWPaC 2012):

- The most common form is as grassy woodland comprising a tree layer and an understorey that must have native grasses but with a varying proportion of shrubs and herbs.
- The derived native grassland form can occur in patches where the tree canopy and mid layer have been almost entirely removed but the native ground layer remains largely intact with high flora diversity.

Patches of Box Ironbark Forest within the study area were dominated by Grey Box, with a variable shrublayer which included such widespread species as wattles (*Acacia* species) and *Cassinia* species. In addition, the ground layer comprised a combination of grasses, namely Wallaby grasses and Spear grasses.

Condition thresholds that define the nationally significant ecological community Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (GBGW community) are provided in Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia: A guide to the identification, assessment and management of a nationally threatened ecological community (DSEWPaC 2012).

All habitat zones (BIB1 to BIB3) did not meet the condition thresholds that define the Grey Box Grassy Woodland ecological community, due to one or a combination of the following:

- The patch was **not** at least 0.5 hectares in size; and/or
- Low floristic diversity within the mid and ground layers.

Habitat Zones BIB1 and BIB3 were 0.24 hectares and 0.18 hectares in size, respectively. Whilst Habitat Zone BIB2 was 1.33 hectares in size, the patch had low floristic diversity within the understorey, whereby the ground cover was dominated by a high cover of weeds.

It is important to note that whilst the field assessment was undertaken during a sub-optimal season for the identification of flora and fauna species (i.e. autumn/winter), the timing of the survey did not influence the ability to determine the presence/absence of this ecological community.

Natural Grasslands of the Murray Valley Plains

The Natural Grasslands of the Murray Valley Plains ecological community is a type of natural temperate grassland that has semi-arid characteristics, due to the lower rainfall where it occurs. The structure is an open grassland to forbland in which trees and tall shrubs are sparse to absent. The vegetation is dominated by the ground layer with range of perennial grasses, forbs and small shrubs.

Areas of open grassland within the study area had a high cover (>90%) of exotic grass species, many of which were direct-seeded for use as pasture. Scattered native grasses were generally present in these areas, however they did not have the required 25% relative cover to be considered a patch. As such, vegetation within the

study area did not meet the defining characteristics of the Natural Grasslands of the Murray Valley Plains ecological community the low diversity of native flora and high cover of exotic vegetation

*White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*

This ecological community is characterised by the presence of White Box, Yellow Box and/or Blakely's Red Gum and a generally grassy understorey. The trees may occur as pure stands, mixtures of the three species or in mixtures with other trees, including wattle species.

Given the absence of these key indicator tree species, vegetation within the study area did not meet the condition thresholds that define this nationally significant ecological community.

**State Significant**

*Grey Box – Buloke Grassy Community*

The Grey Box - Buloke Grassy Woodland Community is a mainly grassy woodland dominated by Grey Box over a lower stratum of Buloke. The ground layer is mainly native grasses and although a shrub layer is usually lacking, a scattering of wattles is present at some sites.

However, vegetation within the study area did not meet the condition thresholds that defines this ecological community due to the absence of Buloke in the shrublayer and the low diversity of native flora and high cover of exotic vegetation within the ground layer.

## 4 LEGISLATIVE AND POLICY IMPLICATIONS

### 4.1 *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

The EPBC Act establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environmental Significance (NES).

**Table 8.** Potential impacts to matters of National Environmental Significance (NES)

Matter of NES	Potential Impacts
<b>World Heritage properties</b>	The proposed action will not impact any properties listed for World Heritage.
<b>National heritage places</b>	The proposed action will not impact any places listed for national heritage.
<b>Ramsar wetlands of international significance</b>	Gunbower Forest and NSW Central Murray State Forests are located 50 to 100 kilometres upstream.  Given the location of the proposed action it will not impact these Ramsar Wetlands of International Importance. Furthermore, management practices and construction techniques consistent with Construction Techniques for Sediment Pollution Control (EPA 1991) and Environmental Guidelines for Major Construction Sites (EPA 1996), will be implemented to prevent any impact to the ecological character of any nearby wetland.
<b>Threatened species and ecological communities</b>	No nationally significant flora or fauna were recorded during the site assessment.  However, there is suitable foraging habitat within the study area for one nationally significant fauna species, the Swift Parrot.  A significant impact assessment for Swift Parrot is provided in Table 9.  Vegetation within the study area does <b>not</b> meet the condition thresholds that define any nationally significant ecological community.
<b>Migratory and marine species</b>	While a number of species may occasionally fly over the study area, it would not be classed as an 'important habitat' as defined under the EPBC Act Policy Statement 1.1 Principal Significant Impact Guidelines (DoE 2013).
<b>Commonwealth marine area</b>	The proposed action will not impact any Commonwealth marine areas.
<b>Nuclear actions (including uranium mining)</b>	The proposed action is not a nuclear action.
<b>Great Barrier Reef Marine Park</b>	The proposed action will not impact the Great Barrier Reef Marine Park.
<b>Water resources impacted by coal seam gas or mining development</b>	The proposed action is a mining development but will not impact water resources.

#### 4.1.1 *Implications*

There is suitable habitat within the study area for one fauna species (Swift Parrot) listed under the EPBC Act.

Given the modified condition of the majority of the study area and its close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve), it is considered unlikely that the study area provides critical or limiting habitat for this species. In the context of the broader landscape which offers higher quality and key foraging habitat for Swift Parrot, the study area is only likely to be used opportunistically by

the species en route to larger areas of suitable habitat. Furthermore, given the presence of intact areas of habitat surrounding the study area, vegetation connectivity surrounding the study area will be maintained, sustaining passage between key habitat areas. As such, it is considered unlikely that the proposed vegetation removal will have a significant impact on Swift Parrot (Table 9).

An assessment against the *EPBC Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* is included below (Table 9).

**Table 9.** Significant Impact Assessment for Swift Parrot

Significant Impact Criteria for Endangered or Critically Endangered Species (Swift Parrot)	
Significant Impact Criteria	Comment
1. Lead to a long-term decrease in the size of the population	<p>There is a moderate likelihood that Swift Parrot utilises habitat within the study area, given two of its preferred winter-foraging tree species (Grey Box and Waxy Yellow-gum) are present.</p> <p>However, given the modified condition of the majority of the study area and its close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve), it is considered unlikely that the study area provides critical or limiting habitat for the species.</p> <p>Rather, they may use the study area opportunistically for foraging or fly over it on their way to the areas of higher quality habitat.</p> <p>As such, the removal of habitat within the study area is unlikely to lead to a long-term decrease in the size of the population.</p>
2. Reduce the area of occupancy of the species	<p>Swift Parrot has not been previously recorded within the study area.</p> <p>However, should Swift Parrot inhabit the study area, the proposed action will reduce the area of occupancy of the species for foraging as a result of the removal of the majority of native vegetation within the study area.</p>
3. Fragment an existing population into two or more populations	<p>Given the presence of intact areas of habitat surrounding the study area, it is considered unlikely that the proposed action will fragment any potentially existing Swift Parrot population into two or more populations.</p>
4. Adversely affect habitat critical to the survival of the species	<p>Given the modified condition of the majority of the study area, its close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve), and the occurrence of breeding habitat only within Tasmania, it is considered that the study area does not provide critical or limiting habitat for the species (i.e. used for breeding purposes).</p> <p>As such the removal of native vegetation within the study area is considered unlikely to adversely affect habitat crucial to the survival of Swift Parrot. Given the species breeds in Tasmania, the removal of foraging habitat will not disrupt the breeding cycle of any population.</p>
5. Disrupt the breeding cycle of a population.	
6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	<p>Native vegetation within the study area is in a modified condition, characterised by low floristic diversity and a high ground cover of weeds. As such, the study area is not considered to be high quality habitat for the Swift Parrot.</p> <p>In addition, the study area is in close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve).</p> <p>Whilst the proposed action will likely modify, destroy, remove and decrease the availability of habitat for the Swift Parrot, given the above, it is considered unlikely that this will be to the point where the species is likely to decline.</p>



Significant Impact Criteria for Endangered or Critically Endangered Species (Swift Parrot)	
7. Result in invasive species that are harmful to the species becoming established in the species' habitat	Fosterville Gold Mine Pty Ltd currently engage a licensed pest control company to undertake annual rabbit and fox baiting programs and as such, and it is understood that these programs will be maintained to control pest fauna within the study area. As such, the proposed action is considered unlikely to result in invasive species (i.e. foxes) becoming established within the study area.
8. Introduce disease that may cause the species to decline.	Furthermore, materials used in the construction of the brine ponds will be certified weed/disease free and so the proposed action is also unlikely to introduce a disease that is detrimental to Swift Parrot into the study area.
9. Interfere with the recovery of the species.	The proposed action does not interfere with the long-term recovery of the species.

## 4.2 Flora and Fauna Guarantee Act 1988 (Victoria)

The FFG Act is the primary legislation dealing with biodiversity conservation and sustainable use of native flora and fauna in Victoria. Proponents are required to apply for an FFG Act Permit to 'take' threatened and/or protected flora species, listed vegetation communities and listed fish species in areas of public land (e.g. within road reserves, drainage lines and public reserves/parks). An FFG Act permit is generally not required for removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

There are confirmed records of flora species listed as threatened and/or protected under the FFG Act (Golden Wattle and Gold-dust Wattle). The study area is privately owned, and as such a permit under the FFG Act is not required.

## 4.3 Mineral Resources (Sustainable Development) Act 1990 (Victoria)

The removal of native vegetation for the Earth Resources Industry (ERI) is regulated through the Mining and Extractive Industry Work Approvals Process. A Memorandum of Understanding (MoU) between the former Department of Sustainability and Environment (DSE) and Department of Primary Industries (DPI) recognises that native vegetation should be offset in accordance with the relevant environmental policy. As such the requirements for removing native vegetation within the study area was assessed against Victoria's Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines) (DELWP 2017).

### 4.3.1 Implications

The study area is within Location 2, with 16.942 hectares of native vegetation proposed to be removed, including 13.451 hectares of past removals. As such, the permit application falls under the Detailed assessment pathway.

The offset requirement for native vegetation removal is 1.105 General Habitat Units and 37 Large Trees.

#### **4.4 Planning and Environment Act 1987 (Victoria)**

The clearing of native vegetation for mining and extractive industries is exempt from the requirement for a planning permit under the Planning and Environment Act 1987 subject to an assessment as part of the work plan approval process (Mineral Resources [Sustainable Development] Act 1990).

##### **4.4.1 Local Planning Scheme**

The study area is located within the City of Greater Bendigo and is zoned as Farming Zone (FZ) (DELWP 2021e). There are no environmental overlays that apply to the study area.

#### **4.5 Catchment and Land Protection Act 1994 (Victoria)**

There were no weeds listed as noxious under the CaLP Act recorded during the assessment. However, there is evidence that the study area is currently occupied by a pest fauna species listed under the CaLP Act (European Rabbit *Oryctolagus cuniculus*). Fosterville Gold Mine Pty Ltd currently engage a licensed pest control company to undertake annual rabbit and fox baiting programs and as such, it is recommended that these programs are maintained to control pest fauna within the study area. Any listed noxious weeds that are identified in future should be appropriately controlled throughout the study area, as is currently employed through weed spraying across the site.

#### **4.6 Wildlife Act 1975 and Wildlife Regulations 2013 (Victoria)**

The *Wildlife Act 1975* (and associated *Wildlife Regulations 2013*) is the primary legislation in Victoria providing for protection and management of wildlife. Authorisation for habitat removal may be obtained under the *Wildlife Act 1975* through a licence granted under the *Forests Act 1958*, or under any other Act such as the *Planning and Environment Act 1987*. Any persons engaged to remove, salvage, hold or relocate native fauna during construction must hold a current Management Authorisation under the *Wildlife Act 1975*, issued by DELWP.

## 5 MITIGATION MEASURES

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### 5.1 Avoid and Minimise Statement

The majority of Fosterville Gold Mine is constrained by vacant land except for areas supporting remnant vegetation.

However, the siting of the Brine Ponds within this location was selected to minimise impacts to native vegetation, given the site has had a long history of residential and agricultural use, as opposed to other possible sites which have much greater ecological values.

In addition, the design of the Brine Ponds has been amended to further reduce impacts to native vegetation within the area by locating the ponds partially within pre-existing disturbed areas in the south of the study area and/or areas dominated by planted vegetation near to the centre of the study area.

Following this amendment to the design, it is considered that there are no other feasible opportunities to further avoid or minimise impacts to native vegetation without undermining the key objectives of the proposal and/or resulting in the removal of larger extents of native vegetation. However, best practice mitigation measures detailed in Section 5.2 will be implemented to assist with minimising impacts to biodiversity during the construction phase.

### 5.2 Best Practice Mitigation Measures

Recommended measures to mitigate impacts upon terrestrial and aquatic values present within the study area may include:

- Minimise impacts to native vegetation and habitats through construction and micro-siting techniques, including fencing retained areas of native vegetation. If indeed necessary, trees should be lopped or trimmed rather than removed.
- All contractors should be aware of ecologically sensitive areas to minimise the likelihood of inadvertent disturbance to areas marked for retention. Native vegetation (areas of sensitivity) should be included as a mapping overlay on any construction plans;
- Tree Protection Zones (TPZs) should be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2011). A TPZ applies to a tree and is a specific area above and below the ground, with a radius 12 x the Diameter at Breast Height (DBH). At a minimum standard a TPZ should consider the following:
  - A TPZ of trees should be a radius no less than two metres or greater than 15 metres;
  - Construction, related activities and encroachment (i.e. earthworks such as trenching that disturb the root zone) should be excluded from the TPZ;
  - Where encroachment is 10% or more of the total area of the TPZ, the tree should be considered as lost and offset accordingly (unless an arboricultural report specifies otherwise);

- Directional drilling may be used for works within the TPZ without being considered encroachment. The directional bore should be at least 600 millimetres deep;
- The above guidelines may be varied if a qualified arborist confirms the works will not significantly damage the tree (including stags / dead trees). In this case the tree would be retained, and no offset would be required; and,
- Where the minimum standard for a TPZ has not been met an offset may be required.
- Removal of any habitat trees or shrubs (particularly hollow-bearing trees or trees/shrubs with nests) should be undertaken between February and September to avoid the breeding season for most fauna species. If any habitat trees or shrubs are proposed to be removed, this should be undertaken under the supervision of an appropriately qualified zoologist to salvage and translocate any displaced fauna. A Fauna Management Plan may be required to guide the salvage and translocation process;
- Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation, Large Trees and/or wetlands;
- Ensure that best practice sedimentation and pollution control measures are undertaken at all times, in accordance with Environment Protection Authority guidelines (EPA 1991; EPA 1996; Victorian Stormwater Committee 1999) to prevent offsite impacts to waterways and wetlands; and,
- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings that are undertaken as part of the proposed works are conducted using indigenous species sourced from a local provenance, rather than exotic deciduous trees and shrubs.

### 5.3 Offset Impacts and Strategy

According to DELWPs Native Vegetation Offset Register (DELWP 2021f), there are six offset sites within the North Central CMA or City of Greater Bendigo region that can be used to satisfy the General Habitat Unit and Large tree offset requirements.

An offset register search statement identifying the relevant offsite sites is provided in Appendix 4.

## 6 FURTHER REQUIREMENTS

Further requirements associated with development of the study area, as well as additional studies or reporting that may be required, are provided in Table 10.

**Table 10.** Further requirements associated with development of the study area.

Relevant Legislation	Implications	Further Action
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	<p>The EPBC Act establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environment Significance (NES).</p> <p>Given the modified condition of the majority of the study area and its close proximity to large areas of higher quality habitat (i.e. Mount Sugarloaf Nature Conservation Reserve), it is considered unlikely that the study area provides critical or limiting habitat for the species. In the context of the broader landscape which offers higher quality and key foraging habitat for Swift Parrot, the study area is only likely to be used opportunistically by the species en route to larger areas of suitable habitat. Furthermore, given the presence of intact areas of habitat surrounding the study area, vegetation connectivity surrounding the study area will be maintained, sustaining passage between key habitat areas. As such, it is considered unlikely that the proposed vegetation removal will have a significant impact on Swift Parrot (Table 9).</p>	No further action required
<i>Flora and Fauna Guarantee Act 1988</i>	<p>There are confirmed records of flora species listed as threatened and/or protected under the FFG Act (Golden Wattle and Gold-dust Wattle). The study area is privately owned, and as such a permit under the FFG Act is not required.</p>	No further action required.
<i>Mineral Resources (Sustainable Development) 1990</i>	<p>The removal of native vegetation for the Earth Resources Industry (ERI) is regulated through the Mining and Extractive Industry Work Approvals Process. The requirements for removing native vegetation within the study area was assessed against Victoria’s Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines) (DELWP 2017).</p> <p>The study area is within Location 2, with 16.942 hectares of native vegetation proposed to be removed, including 13.451 hectares of past removals. As such, the permit application falls under the Detailed assessment pathway.</p> <p>The offset requirement for native vegetation removal is 1.105 General Habitat Units and 37 Large Trees.</p>	Prepare and submit a Work Plan (approved by DELWP and DEDJTR) under the MRSD Act if necessary.

Relevant Legislation	Implications	Further Action
<i>Planning and Environment Act 1987</i>	The clearing of native vegetation for mining and extractive industries is exempt from the requirement for a planning permit under the Planning and Environment Act 1987 subject to an assessment as part of the work plan approval process (Mineral Resources [Sustainable Development] Act 1990).	No further action required (for native vegetation removal).
<i>Catchment and Land Protection Act 1994</i>	To meet requirements under the CaLP Act, listed pest animals should be appropriately controlled throughout the study area.	Listed pest animals are currently controlled by Fosterville Gold Mine Pty Ltd with annual rabbit and fox baiting programs.
<i>Wildlife Act 1975</i>	Any persons engaged to conduct salvage and translocation or general handling of terrestrial fauna species must hold a current Management Authorisation.	Ensure wildlife specialists hold a current Management Authorisation.

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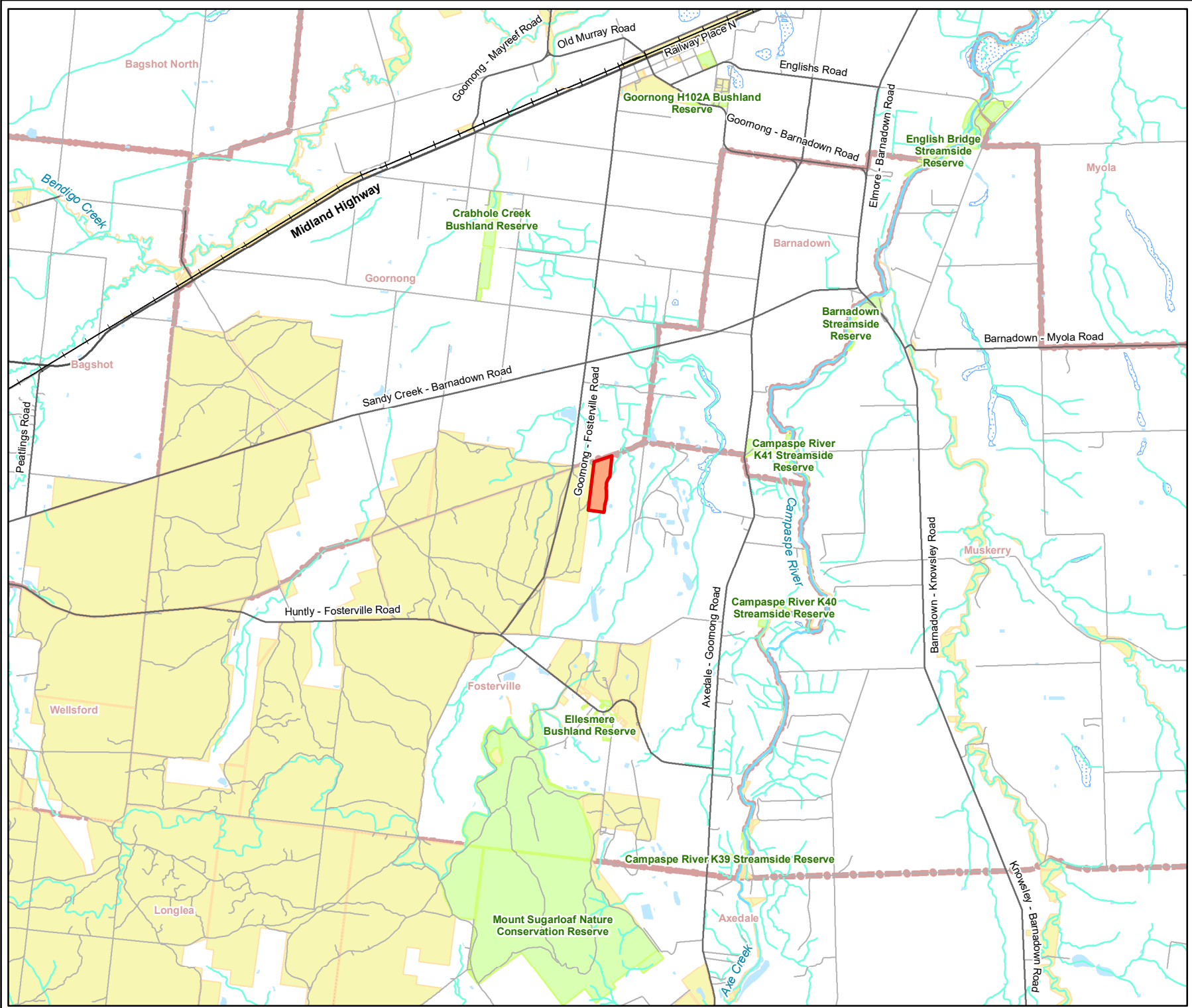
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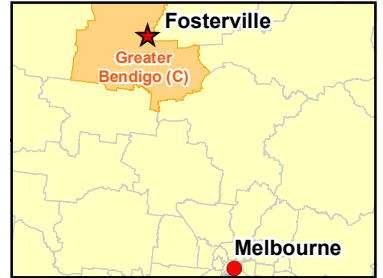


## FIGURES

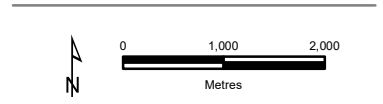
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- Legend**
- Study Area
  - Railway
  - Major Road
  - Collector Road
  - Minor Road
  - Minor Watercourse
  - Major Watercourse
  - Permanent Waterbody
  - Land Subject to Inundation
  - Parks and Reserves
  - Crown Land
  - Localities

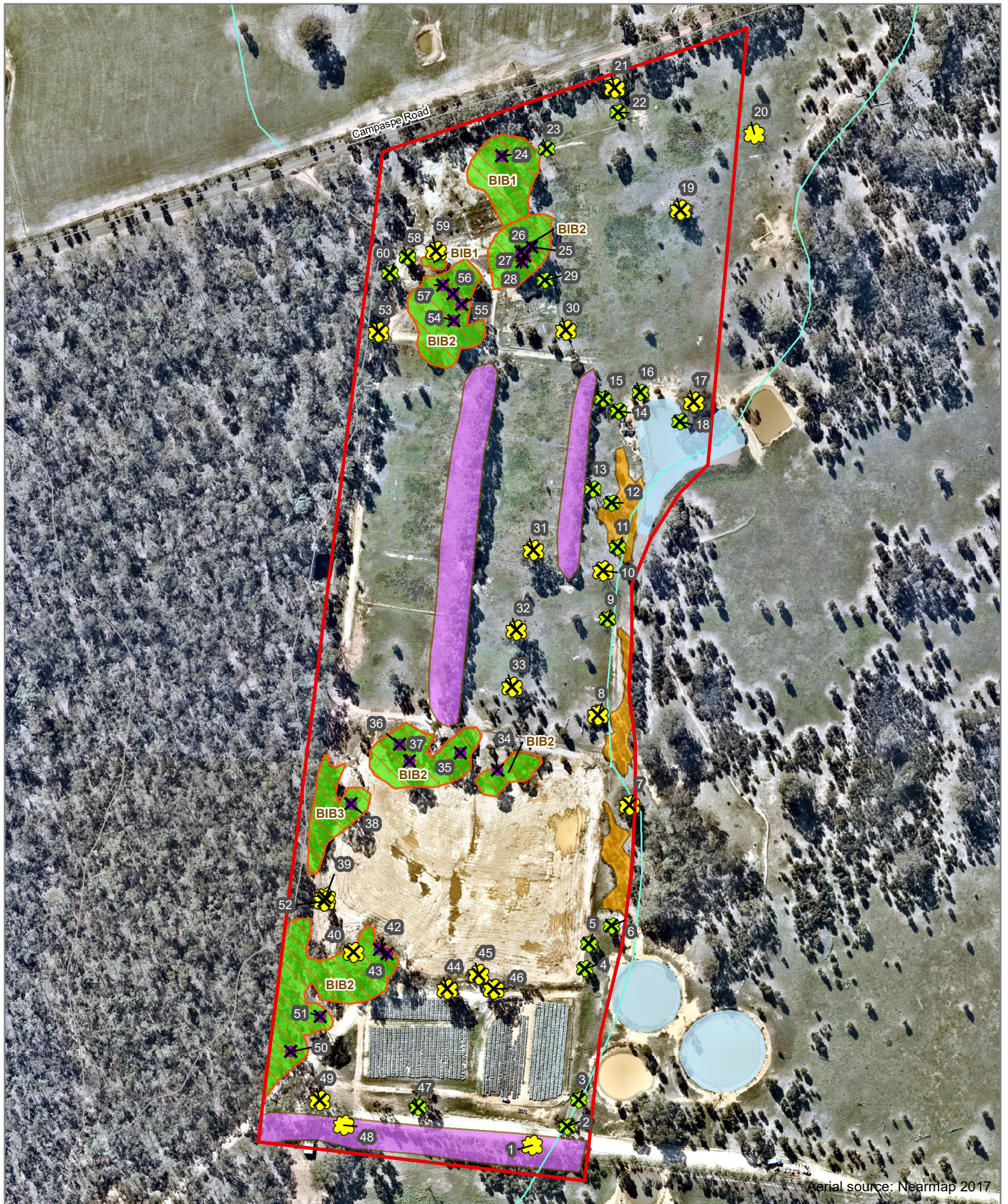


**Figure 1**  
**Location of the study area**  
*Biodiversity Assessment for Proposed Brine Ponds at the Fosterville Gold Mine, Fosterville*



VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

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**Figure 2**  
**Ecological features**  
*Biodiversity Assessment for Proposed Brine Ponds at the Fosterville Gold Mine, Fosterville*

**Legend**

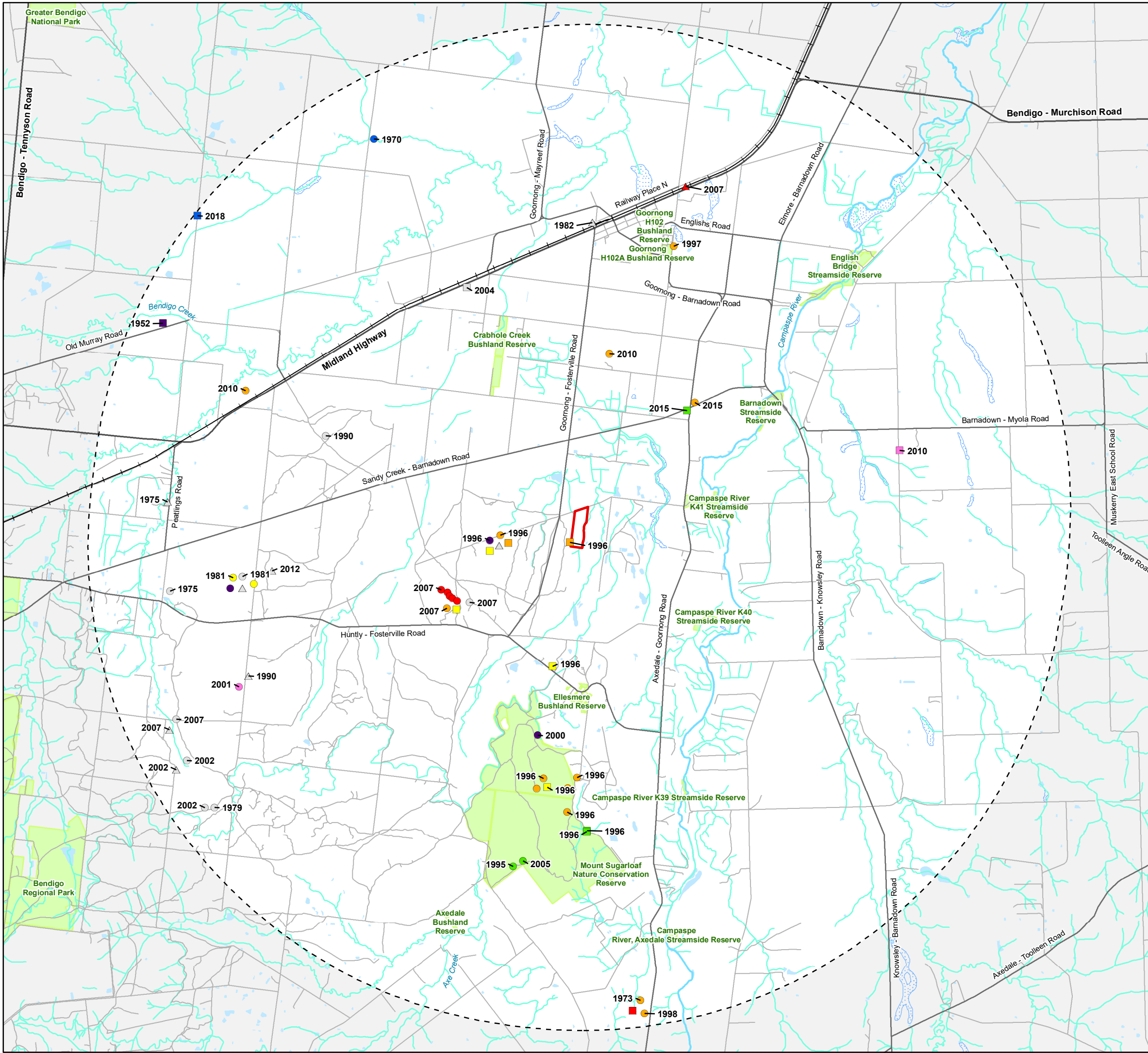
- Study Area
- ✿ Scattered Large Tree
- ✿ Scattered Small Tree
- Large Tree in patch
- ✕ Impacted tree - Removal

**Ecological Vegetation Class**

- Box Ironbark Forest (EVC 61)
- Regrowth
- Planted Trees
- Impacted vegetation



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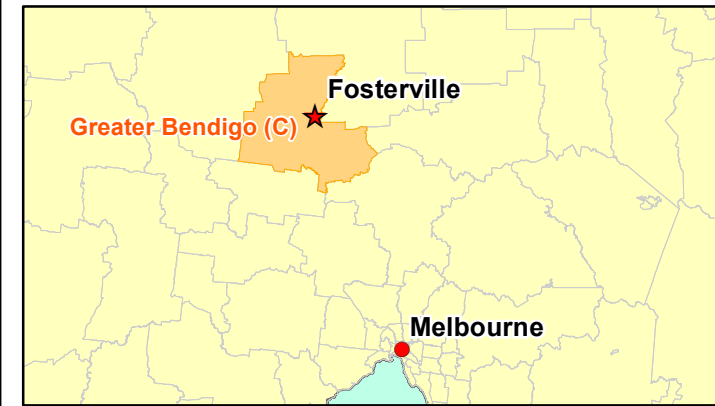


**Legend**

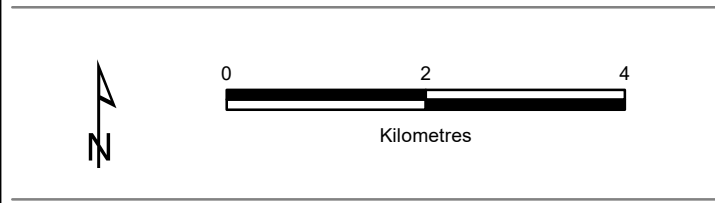
Study Area

**Significant flora**

- Ausfeld's Wattle
- Bent-leaf Wattle
- Buloke
- Cane Spear-grass
- Clover Glycine
- Crimson Sun-orchid
- Dainty Phebalium
- Dwarf Cassinia
- Late-flower Flax-lily
- Rosemary Grevillea
- Sand Rush
- Small-leaf Goodenia
- Southern Swainson-pea
- Spiny Rice-flower
- Waterbush
- Whipstick Westringia
- ▲ Whirrakee Wattle
- ▲ Yellow-tongue Daisy

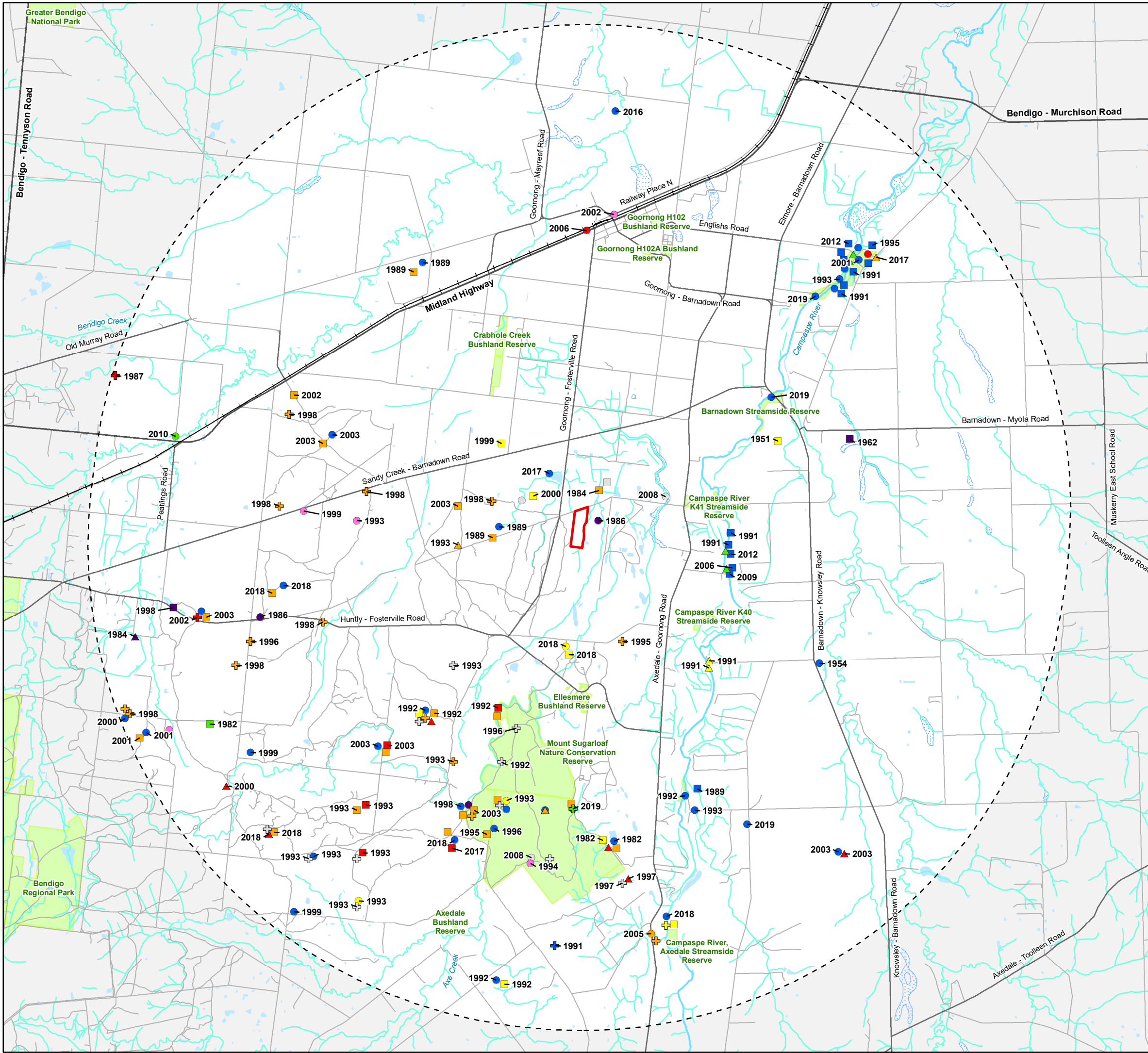


**Figure 3**  
**Previously documented significant flora within 10km of the study area**  
*Biodiversity Assessment for Proposed Brine Ponds at the Fosterville Gold Mine, Fosterville*



VBA 2018. Victorian Biodiversity Atlas // Sourced from: 'VBA\_FLORA25', 'VBA\_FLORA100', 'VBA\_FAUNA25' and 'VBA\_FAUNA100'. March 2018 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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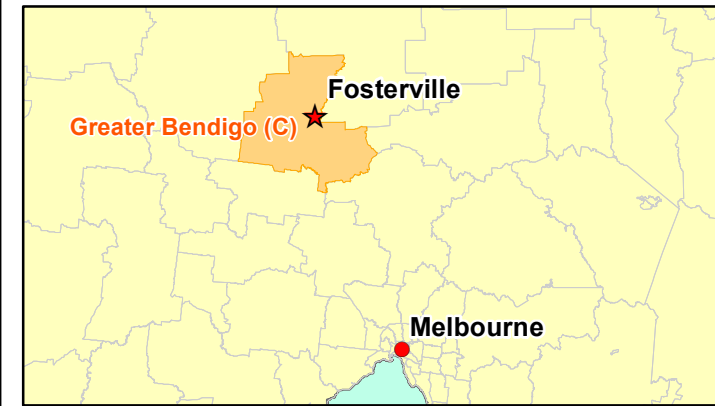


**Legend**

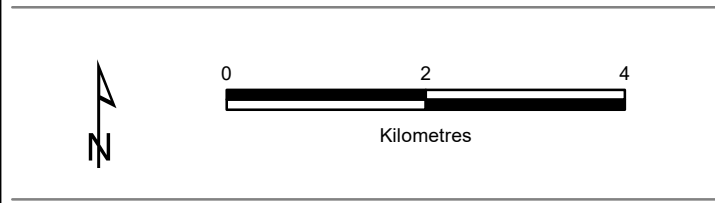
Study Area

**Significant fauna**

○ Azure Kingfisher	■ Golden Perch
● Baillon's Crake	■ Grey-crowned Babbler
● Barking Owl	▲ Hooded Robin
● Black-eared Cuckoo	▲ Lace Monitor
● Brown Toadlet	▲ Macquarie Perch
● Brown Treecreeper	▲ Murray Cod
● Brush-tailed Phascogale	▲ Regent Honeyeater
● Bullant	⊕ Speckled Warbler
■ Bush Stone-curlew	⊕ Spotted Quail-thrush
■ Chestnut-rumped Heathwren	⊕ Swift Parrot
■ Crested Bellbird	⊕ White-bellied Sea-Eagle
■ Diamond Firetail	⊕ White-throated Needletail
■ Fat-tailed Dunnart	⊕ Woodland Blind Snake



**Figure 4**  
 Previously documented significant fauna within 10km of the study area  
*Biodiversity Assessment for Proposed Brine Ponds at the Fosterville Gold Mine, Fosterville*



VBA 2018. Victorian Biodiversity Atlas // Sourced from: 'VBA\_FLORA25', 'VBA\_FLORA100', 'VBA\_FAUNA25' and 'VBA\_FAUNA100'. March 2018 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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15293 Fig04 SigFauna 25/06/2021 lesliev

## APPENDIX 1 FLORA

### Appendix 1.1 Flora Results

**Legend:**

I Protected under the FFG Act (DELWP 2019b);

+ Planted indigenous species that also occur in native vegetation in the study area;

**Table A1.1.** Flora within the study area.

Scientific Name	Common Name	Notes
<b>INDIGENOUS SPECIES</b>		
<i>Acacia acinacea</i> s.l.	Gold-dust Wattle	I
<i>Acacia pycnantha</i>	Golden Wattle	I
<i>Daucus glochidiatus</i>	Australian Carrot	-
<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	+
<i>Eucalyptus micrcarpa</i>	Grey Box	-
<i>Oxalis perennans</i>	Grassland Wood-sorrel	-
<i>Rytidosperma caespitosum</i>	Common Wallaby-grass	-
<b>NON-INDIGENOUS OR INTRODUCED SPECIES</b>		
<i>Arctotheca calendula</i>	Cape Weed	-
<i>Bromus hordeaceus</i> subsp. <i>hordeaceus</i>	Soft Brome	-
<i>Ehrharta longiflora</i>	Annual Veldt-grass	-
<i>Hordeum leporinum</i>	Barley-grass	-
<i>Malva nicaeensis</i>	Mallow of Nice	-
<i>Phalaris aquatica</i>	Toowoomba Canary-grass	-
<i>Solanum nigrum</i> s.l.	Black Nightshade	-

## Appendix 1.2 Habitat Hectare Assessment

**Table A1.2.** Habitat Hectare Assessment Table.

Vegetation Zone		BIB <sub>1</sub>	BIB <sub>2</sub>	BIB <sub>3</sub>
Bioregion		GF	GF	GF
EVC / Tree		BIF	BIF	BIF
EVC Number		61	61	61
EVC Conservation Status		D	D	D
Patch Condition	Large Old Trees /10	0	6	4
	Canopy Cover /5	5	5	3
	Under storey /25	5	0	5
	Lack of Weeds /15	6	6	9
	Recruitment /10	0	0	0
	Organic Matter /5	3	3	3
	Logs /5	0	0	0
	Treeless EVC Multiplier	1.00	1.00	1.00
Subtotal =		19.00	20.00	24.00
Landscape Value /25		16	16	16
Habitat Points /100		35	36	40
Habitat Score		0.35	0.36	0.40

**Note:** BIF = Box Ironbark Forest; GF = Goldfields

## Appendix 1.3 Scattered Trees and Large Trees in Patches

**Table A1.3.** Scattered Trees and Large Trees in Patches.

Tree # (Figure 2)	Species Name	Common Name	DBH (cm)	Size Class	Scattered / Parch	Status
1	<i>Eucalyptus microcarpa</i>	Grey Box	162.5	Large	Scattered	Retained
2	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	66	Small	Scattered	Removed
3	<i>Eucalyptus microcarpa</i>	Grey Box	28	Small	Scattered	Removed
4	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	24	Small	Scattered	Removed
5	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	22	Small	Scattered	Removed
6	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	48.5	Small	Scattered	Removed
7	<i>Eucalyptus microcarpa</i>	Grey Box	111	Large	Scattered	Removed
8	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	111	Large	Scattered	Removed
9	-	Dead Stag	68.5	Small	Scattered	Removed
10	-	Dead Stag	112	Large	Scattered	Removed
11	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	33	Small	Scattered	Removed
12	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	62	Small	Scattered	Removed
13	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	66	Small	Scattered	Removed
14	<i>Eucalyptus microcarpa</i>	Grey Box	57	Small	Scattered	Removed
15	<i>Eucalyptus microcarpa</i>	Grey Box	55	Small	Scattered	Removed
16	<i>Eucalyptus microcarpa</i>	Grey Box	57	Small	Scattered	Removed
17	<i>Eucalyptus microcarpa</i>	Grey Box	130	Large	Scattered	Removed
18	<i>Eucalyptus microcarpa</i>	Grey Box	52	Small	Scattered	Removed
19	<i>Eucalyptus microcarpa</i>	Grey Box	138	Large	Scattered	Removed



Tree # (Figure 2)	Species Name	Common Name	DBH (cm)	Size Class	Scattered / Parch	Status
20	-	Dead Stag	72	Large	Scattered	Retained
21	-	Dead Stag	119	Large	Scattered	Removed
22	<i>Eucalyptus microcarpa</i>	Grey Box	36.5	Small	Scattered	Removed
23	<i>Eucalyptus microcarpa</i>	Grey Box	49	Small	Scattered	Removed
24	<i>Eucalyptus microcarpa</i>	Grey Box	87	Large	Patch	Removed
25	<i>Eucalyptus microcarpa</i>	Grey Box	106	Large	Patch	Removed
26	<i>Eucalyptus microcarpa</i>	Grey Box	77	Large	Patch	Removed
27	<i>Eucalyptus microcarpa</i>	Grey Box	70	Large	Patch	Removed
28	<i>Eucalyptus microcarpa</i>	Grey Box	84	Large	Patch	Removed
29	<i>Eucalyptus microcarpa</i>	Grey Box	46	Small	Scattered	Removed
30	-	Dead Stag	120	Large	Scattered	Removed
31	<i>Eucalyptus microcarpa</i>	Grey Box	121	Large	Scattered	Removed
32	<i>Eucalyptus microcarpa</i>	Grey Box	226	Large	Scattered	Removed
33	<i>Eucalyptus microcarpa</i>	Grey Box	131	Large	Scattered	Removed
34	<i>Eucalyptus microcarpa</i>	Grey Box	122	Large	Patch	Removed
35	<i>Eucalyptus microcarpa</i>	Grey Box	114	Large	Patch	Removed
36	<i>Eucalyptus microcarpa</i>	Grey Box	96	Large	Patch	Removed
37	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	127	Large	Patch	Removed
38	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	113	Large	Patch	Removed
39	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	70	Large	Scattered	Removed
40	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	82	Large	Scattered	Removed
41	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	67	Small	Scattered	Removed

Tree # (Figure 2)	Species Name	Common Name	DBH (cm)	Size Class	Scattered / Parch	Status
42	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	71	Large	Patch	Removed
43	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	119	Large	Patch	Removed
44	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	106	Large	Scattered	Removed
45	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	73	Large	Scattered	Removed
46	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	116	Large	Scattered	Removed
47	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	65	Small	Scattered	Removed
48	<i>Eucalyptus microcarpa</i>	Grey Box	134	Large	Scattered	Retained
49	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	103	Large	Scattered	Removed
50	<i>Eucalyptus microcarpa</i>	Grey Box	112	Large	Patch	Removed
51	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	105	Large	Patch	Removed
52	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	71	Large	Scattered	Removed
53	<i>Eucalyptus microcarpa</i>	Grey Box	90	Large	Scattered	Removed
54	<i>Eucalyptus microcarpa</i>	Grey Box	115	Large	Patch	Removed
55	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	93	Large	Patch	Removed
56	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	89	Large	Patch	Removed
57	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	108	Large	Patch	Removed
58	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	59	Small	Scattered	Removed
59	<i>Eucalyptus leucoxylon</i> subsp. <i>pruinosa</i>	Waxy Yellow-gum	73	Large	Scattered	Removed
60	<i>Eucalyptus microcarpa</i>	Grey Box	33	Small	Scattered	Removed

## Appendix 1.4 Significant Flora Species

Significant flora within 10 kilometres of the study area is provided in the Table A1.4.3 at the end of this section, with Tables A1.4.1 and A1.4.2 below providing the background context for the values in Table 1.4.3.

**Table A1.4.1** Conservation status of each species for each Act/policy. The values in this table correspond to Columns 5 to 7 in Table A1.4.3.

EPBC ( <i>Environment Protection and Biodiversity Conservation Act 1999</i> ):		FFG ( <i>Flora and Fauna Guarantee Act 1988</i> ):		DELWP (Advisory List of Rare or Threatened Plants in Victoria [DEPI 2014]):	
EX	Extinct	L	Listed as threatened	x	Presumed extinct in Victoria
CR	Critically endangered	N	Nominated for listing as threatened	e	Endangered in Victoria
EN	Endangered	D	Delisted as threatened	v	Vulnerable in Victoria
VU	Vulnerable	I	Rejected for listing as threatened; taxon invalid	r	Rare in Victoria
#	Listed on the Protected Matters Search Tool	X	Rejected for listing as threatened; taxon ineligible	k	Poorly known in Victoria

**Table A1.4.2** Likelihood of occurrence rankings: Habitat characteristics assessment of significant flora species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area to determine their likelihood of occurrence. The values in this table correspond to Column 8 in Table A1.4.3.

1	Known Occurrence	<ul style="list-style-type: none"> <li>Recorded within the study area recently (i.e. within ten years).</li> </ul>
2	High Likelihood	<ul style="list-style-type: none"> <li>Previous records of the species in the local vicinity; and/or,</li> <li>The study area contains areas of high-quality habitat.</li> </ul>
3	Moderate Likelihood	<ul style="list-style-type: none"> <li>Limited previous records of the species in the local vicinity; and/or</li> <li>The study area contains some characteristics of the species' preferred habitat.</li> </ul>
4	Low Likelihood	<ul style="list-style-type: none"> <li>Poor or limited habitat for the species, however other evidence (such as lack of records or environmental factors) indicates there is a very low likelihood of presence.</li> </ul>
5	Unlikely	<ul style="list-style-type: none"> <li>No suitable habitat and/or outside the species range.</li> </ul>

**Table A1.4.3** Significant flora recorded within 10 kilometres of the study area.

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DEPI	Likely occurrence in study area
<b>NATIONAL SIGNIFICANCE</b>							
<i>Amphibromus fluitans</i> #	River Swamp Wallaby-grass	-	-	VU	-	-	5
<i>Caladenia tensa</i> #	Greencomb Spider-orchid	-	-	EN	-	v	5
<i>Caladenia versicolor</i> #	Candy Spider-orchid	-	-	VU	L	e	5
<i>Dodonaea procumbens</i> #	Trailing Hop-bush	-	-	VU	-	v	5
<i>Glycine latrobeana</i>	Clover Glycine	2	2005	VU	L	v	5
<i>Lepidium monolocoides</i> #	Winged Peppergrass	-	-	EN	L	e	5
<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower	2	2018	CR	L	e	5
<i>Senecio macrocarpus</i> #	Large-headed Fireweed	-	-	VU	L	e	5
<i>Westringia crassifolia</i>	Whipstick Westringia	3	1952	EN	L	e	5
<b>STATE SIGNIFICANCE</b>							
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	9	2007	-	X	v	4
<i>Acacia williamsonii</i>	Whirrakee Wattle	9	2012	-	X	r	5
<i>Allocasuarina luehmanna</i>	Buloke	18	2015	-	L	e	4
<i>Brachyscome chrysoglossa</i>	Yellow-tongue Daisy	1	2007	-	L	v	4
<i>Diuris punctata</i>	Purple Diuris	1	1983	-	L	v	5
<i>Phebalium festivum</i>	Dainty Phebalium	1	2001	-	L	v	5
<b>REGIONALLY SIGNIFICANT</b>							
<i>Acacia flexifolia</i>	Bent-leaf Wattle	5	2007	-	-	r	4

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DEPI	Likely occurrence in study area
<i>Austrostipa breviglumis</i>	Cane Spear-grass	2	1981	-	-	r	4
<i>Cassinia diminuta</i>	Dwarf Cassinia	3	2000	-	-	r	4
<i>Dianella tarda</i>	Late-flower Flax-lily	2	2004	-	-	v	4
<i>Goodenia benthamiana</i>	Small-leaf Goodenia	4	1996	-	-	r	4
<i>Grevillea rosmarinifolia</i>	Rosemary Grevillea	1	1998	-	-	P	4
<b><i>Juncus psammophilus</i></b>	<b>Sand Rush</b>	<b>2</b>	<b>1996</b>	-	-	<b>r</b>	<b>3</b>
<i>Myoporum montanum</i>	Waterbush	1	2010	-	-	r	4
<i>Prasophyllum</i> sp. aff. <i>validum</i> A	Woodland Leek-orchid	1	2009	-	-	e	5
<i>Swainsona behriana</i>	Southern Swainson-pea	4	2015	-	-	r	5

**Data Sources:** Victorian Biodiversity Atlas (DELWP 2020); Protected Matters Search Tool (DAWE 2021)

## APPENDIX 2 FAUNA

### Appendix 2.1 Significant Fauna Species

Significant fauna within 10 kilometres of the study area is provided in the Table A2.1.3 at the end of this section, with Tables A2.1.1 and A2.1.2 below providing the background context for the values in Table 2.1.3.

**Table A2.1.1** Conservation status of each species for each Act/policy. The values in this table correspond to Columns 5 to 8 in Table A2.1.3.

<p>EPBC (<i>Environment Protection and Biodiversity Conservation Act 1999</i>):</p> <p>EX Extinct</p> <p>CR Critically endangered</p> <p>EN Endangered</p> <p>VU Vulnerable</p> <p>CD Conservation dependent</p> <p># Listed on the Protected Matters Search Tool</p>	<p>FFG (<i>Flora and Fauna Guarantee Act 1988</i>):</p> <p>L Listed as threatened</p> <p>N Nominated for listing as threatened</p> <p>D Delisted as threatened</p> <p>I Rejected for listing as threatened; taxon invalid or ineligible</p>
<p>DELWP (<i>Advisory List of Threatened Vertebrate Fauna in Victoria [DSE 2013]; Advisory List of Threatened Invertebrate Fauna in Victoria [DSE 2009]</i>):</p> <p>EX Extinct in Victoria</p> <p>RX Regionally extinct in Victoria</p> <p>EW Extinct in the wild in Victoria</p> <p>CR Critically endangered in Victoria</p> <p>EN Endangered in Victoria</p> <p>VU Vulnerable in Victoria</p> <p>NT Near threatened in Victoria</p> <p>DD Data deficient (insufficient or poorly known)</p>	<p>NAP (<i>National Action Plans for several Australian species [Cogger et al. 1993; Duncan et al. 1999; Garnet et al. 2011; Sands and New 2002; Tyler 1997; Woinarski et al. 2014]</i>):</p> <p>EX Extinct</p> <p>CR Critically endangered</p> <p>EN Endangered</p> <p>VU Vulnerable</p> <p>NT Near threatened</p> <p>CD Conservation dependent</p> <p>DD Data deficient (insufficient or poorly known)</p> <p>LC Least concern</p>

**Table A2.1.2** Likelihood of occurrence rankings: Habitat characteristics assessment of significant fauna species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area to determine their likelihood of occurrence. The values in this table correspond to Column 9 in Table A2.1.3.

1	High Likelihood	<ul style="list-style-type: none"> <li>• Known resident in the study area based on site observations, database records, or expert advice; and/or,</li> <li>• Recent records (i.e. within five years) of the species in the local area (DELWP 2018); and/or,</li> <li>• The study area contains the species' preferred habitat.</li> </ul>
2	Moderate Likelihood	<ul style="list-style-type: none"> <li>• The species is likely to visit the study area regularly (i.e. at least seasonally); and/or,</li> <li>• Previous records of the species in the local area (DELWP 2018); and/or,</li> <li>• The study area contains some characteristics of the species' preferred habitat.</li> </ul>
3	Low Likelihood	<ul style="list-style-type: none"> <li>• The species is likely to visit the study area occasionally or opportunistically whilst en route to more suitable sites; and/or,</li> <li>• There are only limited or historical records of the species in the local area (i.e. more than 20 years old); and/or,</li> <li>• The study area contains few or no characteristics of the species' preferred habitat.</li> </ul>
4	Unlikely	<ul style="list-style-type: none"> <li>• No previous records of the species in the local area; and/or,</li> <li>• The species may fly over the study area when moving between areas of more suitable habitat; and/or,</li> <li>• Out of the species' range; and/or,</li> <li>• No suitable habitat present.</li> </ul>

**Table A2.1.3.** Significant fauna within 10 kilometres of the study area.

Common Name	Scientific Name	Last Documented Record (VBA)	# Records (VBA)	EPBC Act	FFG ACT	DSE (2013)	Likelihood
<b>NATIONAL SIGNIFICANCE</b>							
Australasian Bittern	<i>Botaurus poiciloptilus</i>	#	-	EN	L	EN	4
Australian Painted Snipe	<i>Rostratula australis</i>	#	-	VU	L	CR	4
Curlew Sandpiper	<i>Calidris ferruginea</i>	#	-	CR	-	EN	4
Eastern Curlew	<i>Numenius madagascariensis</i>	#	-	CR	-	VU	4
Flat-headed Galaxias	<i>Galaxias rostratus</i>	#	-	CR	-	VU	4
Golden Sun Moth	<i>Synemon plana</i>	#	-	CR	L	CR	4
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	#	-	VU	L	VU	4
Growling Grass Frog	<i>Litoria raniformis</i>	#	-	VU	L	EN	4
Macquarie Perch	<i>Macquaria australasica</i>	1991	3	EN	L	EN	3
Malleefowl	<i>Leipoa ocellata</i>	#	-	VU	L	EN	4
Murray Cod	<i>Maccullochella peelii</i>	2012	9	VU	L	VU	3
Painted Honeyeater	<i>Grantiella picta</i>	#	-	VU	L	VU	4
Pink-tailed Worm-Lizard	<i>Aprasia parapulchella</i>	#	-	VU	L	EN	4
Plains-wanderer	<i>Pedionomus torquatus</i>	#	-	CR	L	CR	4
Regent Honeyeater	<i>Anthochaera phrygia</i>	1984	2	CR	L	CR	3
Striped Legless Lizard	<i>Delma impar</i>	#	-	VU	L	EN	4
Superb Parrot	<i>Polytelis swainsonii</i>	#	-	VU	L	EN	4
<b>Swift Parrot</b>	<b><i>Lathamus discolor</i></b>	<b>2005</b>	<b>19</b>	<b>CR</b>	<b>L</b>	<b>EN</b>	<b>2</b>
<b>STATE SIGNIFICANCE</b>							



Common Name	Scientific Name	Last Documented Record (VBA)	# Records (VBA)	EPBC Act	FFG ACT	DSE (2013)	Likelihood
Brown Toadlet	<i>Pseudophryne bibronii</i>	2010	1	-	L	EN	3
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>	2004	5	-	L	VU	4
<b>Bullant</b>	<b><i>Myrmecia sp. 17</i></b>	<b>2003</b>	<b>3</b>	-	L	<b>VU</b>	<b>2</b>
Bush Stone-curlew	<i>Burhinus grallarius</i>	1984	1	-	L	EN	3
<b>Chestnut-rumped Heathwren</b>	<b><i>Calamanthus pyrrhopygius</i></b>	<b>2017</b>	<b>5</b>	-	L	<b>VU</b>	<b>2</b>
Common Sandpiper	<i>Actitis hypoleucos</i>	#	-	-	-	VU	3
<b>Diamond Firetail</b>	<b><i>Stagonopleura guttata</i></b>	<b>2018</b>	<b>10</b>	-	L	<b>NT</b>	<b>2</b>
Grey Falcon	<i>Falco hypoleucos</i>	#	-	-	L	EN	4
Lace Goanna	<i>Varanus varius</i>	2017	3	-	-	EN	4
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	2018	1	-	L	VU	4
<b>White-throated Needletail</b>	<b><i>Hirundapus caudacutus</i></b>	<b>2017</b>	<b>2</b>	-	-	<b>VU</b>	<b>2</b>
<b>REGIONAL SIGNIFICANCE</b>							
Fat-tailed Dunnart	<i>Sminthopsis crassicaudata</i>	1982	1	-	-	NT	4
<b>Black-eared Cuckoo</b>	<b><i>Chrysococcyx osculans</i></b>	<b>2018</b>	<b>5</b>	-	-	<b>NT</b>	<b>2</b>
Golden Perch	<i>Macquaria ambigua</i>	2012	26	-	-	NT	3
Latham's Snipe	<i>Gallinago hardwickii</i>	#	-	-	-	NT	4
Pectoral Sandpiper	<i>Calidris melanotos</i>	#	-	-	-	NT	4
<b>Spotted Quail-thrush</b>	<b><i>Cinclosoma punctatum</i></b>	<b>2002</b>	<b>2</b>	-	-	<b>NT</b>	<b>2</b>

## **APPENDIX 3 NATIVE VEGETATION REMOVAL (NVR) REPORT**

This report provides information to support an application to remove, destroy or lop native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report **is not an assessment by DELWP** of the proposed native vegetation removal. Native vegetation information and offset requirements have been determined using spatial data provided by the applicant or their consultant.

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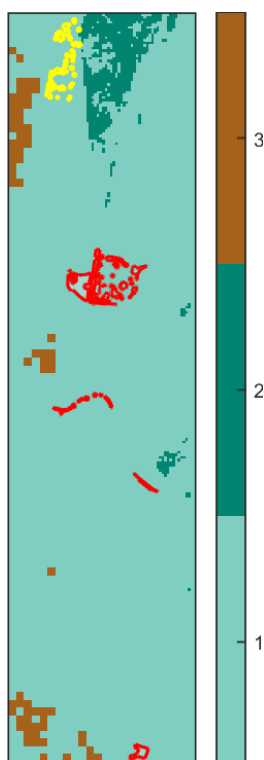
Time of issue: 9:17 pm

Project ID	EHP15293_Fosterville_VG94_07072021
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## Assessment pathway

Assessment pathway	Detailed Assessment Pathway
Extent including past and proposed	16.942 ha
Extent of past removal	13.451 ha
Extent of proposed removal	3.491 ha
No. Large trees proposed to be removed	37
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.

### 1. Location map



## Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

<b>General offset amount<sup>1</sup></b>	1.105 general habitat units
Vicinity	North Central Catchment Management Authority (CMA) or Greater Bendigo City Council
Minimum strategic biodiversity value score <sup>2</sup>	0.397
Large trees	37 large trees

NB: values within tables in this document may not add to the totals shown above due to rounding

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

<sup>1</sup> The general offset amount required is the sum of all general habitat units in Appendix 1.

<sup>2</sup> Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

## Next steps

Any proposal to remove native vegetation must meet the application requirements of the Detailed Assessment Pathway and it will be assessed under the Detailed Assessment Pathway.

If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. Council will refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

This *Native vegetation removal report* must be submitted with your application for a permit to remove, destroy or lop native vegetation.

Refer to the *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) for a full list of application requirements. This report provides information that meets the following application requirements:

- The assessment pathway and reason for the assessment pathway
- A description of the native vegetation to be removed (partly met)
- Maps showing the native vegetation and property (partly met)
- Information about the impacts on rare or threatened species.
- The offset requirements determined in accordance with section 5 of the Guidelines that apply if approval is granted to remove native vegetation.

Additional application requirements must be met including:

- Topographical and land information
- Recent dated photographs
- Details of past native vegetation removal
- An avoid and minimise statement
- A copy of any Property Vegetation Plan that applies
- A defensible space statement as applicable
- A statement about the Native Vegetation Precinct Plan as applicable
- A site assessment report including a habitat hectare assessment of any patches of native vegetation and details of trees
- An offset statement that explains that an offset has been identified and how it will be secured.

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Obtaining this publication does not guarantee that an application will meet the requirements of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes.

## Appendix 1: Description of native vegetation to be removed

The species-general offset test was applied to your proposal. This test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the species offset threshold. The threshold is set at 0.005 per cent of the mapped habitat value for a species. When the proportional impact is above the species offset threshold a species offset is required. This test is done for all species mapped at the site. Multiple species offsets will be required if the species offset threshold is exceeded for multiple species.

Where a zone requires species offset(s), the species habitat units for each species in that zone is calculated by the following equation in accordance with the Guidelines:

$$\text{Species habitat units} = \text{extent} \times \text{condition} \times \text{species landscape factor} \times 2, \text{ where the species landscape factor} = 0.5 + (\text{habitat importance score}/2)$$

The species offset amount(s) required is the sum of all species habitat units per zone

Where a zone does not require a species offset, the general habitat units in that zone is calculated by the following equation in accordance with the Guidelines:

$$\text{General habitat units} = \text{extent} \times \text{condition} \times \text{general landscape factor} \times 1.5, \text{ where the general landscape factor} = 0.5 + (\text{strategic biodiversity value score}/2)$$

The general offset amount required is the sum of all general habitat units per zone.

### Native vegetation to be removed

Zone	Information provided by or on behalf of the applicant in a GIS file						Information calculated by EnSym					
	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-BA	Patch	gold0061	Depleted	0	no	0.350	0.013	0.013	0.510		0.005	General
2-BB	Patch	gold0061	Depleted	4	no	0.360	0.290	0.290	0.503		0.118	General
3-BB	Patch	gold0061	Depleted	4	no	0.360	0.183	0.183	0.510		0.074	General
4-BA	Patch	gold0061	Depleted	1	no	0.350	0.232	0.232	0.510		0.092	General
7-BB	Patch	gold0061	Depleted	3	no	0.360	0.266	0.266	0.510		0.108	General
8-BB	Patch	gold0061	Depleted	1	no	0.360	0.082	0.082	0.510		0.034	General
10-BB	Patch	gold0061	Depleted	4	no	0.360	0.505	0.505	0.491		0.203	General
12-BC	Patch	gold0061	Depleted	1	no	0.400	0.179	0.179	0.510		0.081	General
2-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.480		0.007	General

Information provided by or on behalf of the applicant in a GIS file										Information calculated by EnSym				
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type		
3-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.480		0.007	General		
4-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.480		0.007	General		
5-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.497		0.007	General		
6-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.500		0.007	General		
9-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.470		0.007	General		
11-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.027	0.470		0.006	General		
12-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.030	0.470		0.007	General		
13-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.030	0.470		0.007	General		
14-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.028	0.470		0.006	General		
15-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.028	0.470		0.006	General		
16-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.470		0.007	General		
18-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.022	0.470		0.005	General		
22-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.024	0.500		0.005	General		
23-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.029	0.510		0.007	General		
29-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.510		0.007	General		

Information provided by or on behalf of the applicant in a GIS file										Information calculated by EnSym				
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type		
47-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.031	0.480		0.007	General		
58-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.027	0.510		0.006	General		
60-TN	Scattered Tree	gold0061	Depleted	0	no	0.200	0.031	0.030	0.510		0.007	General		
7-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.500		0.016	General		
8-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.501		0.016	General		
10-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.470		0.015	General		
17-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.470		0.015	General		
19-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.500		0.016	General		
21-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.500		0.016	General		
30-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.496		0.016	General		
31-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.480		0.016	General		
32-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.484		0.016	General		
33-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.510		0.016	General		
39-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.039	0.510		0.009	General		
40-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.025	0.508		0.006	General		



Information provided by or on behalf of the applicant in a GIS file								Information calculated by EnSym				
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
44-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.068	0.480		0.015	General
45-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.054	0.480		0.012	General
46-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.057	0.480		0.013	General
49-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.480		0.016	General
52-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.039	0.510		0.009	General
53-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.070	0.501		0.016	General
59-TN	Scattered Tree	gold0061	Depleted	1	no	0.200	0.070	0.058	0.510		0.013	General

## Appendix 2: Information about impacts to rare or threatened species' habitats on site

This table lists all rare or threatened species' habitats mapped at the site.

Species common name	Species scientific name	Species number	Conservation status	Group	Habitat impacted	% habitat value affected
Dwarf Cassinia	<i>Cassinia diminuta</i>	507664	Rare	Dispersed	Habitat importance map	0.0014
Whirrakee Wattle	<i>Acacia williamsonii</i>	500103	Rare	Dispersed	Habitat importance map	0.0014
Erect Peppercress	<i>Lepidium pseudopapillosum</i>	501909	Endangered	Dispersed	Habitat importance map	0.0014
Jericho Wire-grass	<i>Aristida jerichoensis</i> var. <i>subspinulifera</i>	504631	Endangered	Dispersed	Habitat importance map	0.0014
Ausfeld's Wattle	<i>Acacia ausfeldii</i>	500013	Vulnerable	Dispersed	Habitat importance map	0.0011
Cottony Cassinia	<i>Cassinia ozothamnoides</i>	501560	Vulnerable	Dispersed	Habitat importance map	0.0011
Blue Burr-daisy	<i>Calotis cuneifolia</i>	500594	Rare	Dispersed	Habitat importance map	0.0010
Grey-crowned Babbler	<i>Pomatostomus temporalis</i> <i>temporalis</i>	10443	Endangered	Dispersed	Habitat importance map	0.0010
Cane Spear-grass	<i>Austrostipa breviglumis</i>	503268	Rare	Dispersed	Habitat importance map	0.0009
Sikh's Whiskers	<i>Pterostylis boormanii</i>	502787	Rare	Dispersed	Habitat importance map	0.0009
Arching Flax-lily	<i>Dianella</i> sp. aff. <i>longifolia</i> ( <i>Benambra</i> )	505560	Vulnerable	Dispersed	Habitat importance map	0.0007
Southern Swainson-pea	<i>Swainsona behriana</i>	504944	Rare	Dispersed	Habitat importance map	0.0007
Bristly Greenhood	<i>Pterostylis setifera</i>	503935	Rare	Dispersed	Habitat importance map	0.0006
Late-flower Flax-lily	<i>Dianella tarda</i>	505085	Vulnerable	Dispersed	Habitat importance map	0.0005
Swift Parrot	<i>Lathamus discolor</i>	10309	Endangered	Dispersed	Habitat importance map	0.0005
Bush Stone-curlew	<i>Burhinus grallarius</i>	10174	Endangered	Dispersed	Habitat importance map	0.0005
Small-leaf Goodenia	<i>Goodenia benthamiana</i>	501493	Rare	Dispersed	Habitat importance map	0.0004
Inland Pomaderris	<i>Pomaderris paniculosa</i> subsp. <i>paniculosa</i>	503943	Vulnerable	Dispersed	Habitat importance map	0.0004

Blue Mallee	<i>Eucalyptus polybractea</i>	501311	Rare	Dispersed	Habitat importance map	0.0004
Barking Owl	<i>Ninox connivens connivens</i>	10246	Endangered	Dispersed	Habitat importance map	0.0003
Bent-leaf Wattle	<i>Acacia flexifolia</i>	500035	Rare	Dispersed	Habitat importance map	0.0003
Brown Toadlet	<i>Pseudophryne bibronii</i>	13117	Endangered	Dispersed	Habitat importance map	0.0003
Painted Honeyeater	<i>Grantiella picta</i>	10598	Vulnerable	Dispersed	Habitat importance map	0.0003
Bearded Dragon	<i>Pogona barbata</i>	12177	Vulnerable	Dispersed	Habitat importance map	0.0003
Waterbush	<i>Myoporum montanum</i>	502240	Rare	Dispersed	Habitat importance map	0.0003
Snowy Mint-bush	<i>Prostanthera nivea</i> var. <i>nivea</i>	502746	Rare	Dispersed	Habitat importance map	0.0002
Yellow-tongue Daisy	<i>Brachyscome chrysoglossa</i>	503654	Vulnerable	Dispersed	Habitat importance map	0.0002
Kamarooka Mallee	<i>Eucalyptus froggattii</i>	501279	Rare	Dispersed	Habitat importance map	0.0002
Spiny Rice-flower	<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	504823	Endangered	Dispersed	Habitat importance map	0.0002
Western Golden-tip	<i>Goodia medicaginea</i>	501518	Rare	Dispersed	Habitat importance map	0.0002
Squirrel Glider	<i>Petaurus norfolcensis</i>	11137	Endangered	Dispersed	Habitat importance map	0.0002
Broom Bitter-pea	<i>Daviesia genistifolia</i> s.s.	503813	Rare	Dispersed	Habitat importance map	0.0002
Buloke	<i>Allocasuarina luehmannii</i>	500678	Endangered	Dispersed	Habitat importance map	0.0002
Half-bearded Spear-grass	<i>Austrostipa hemipogon</i>	503985	Rare	Dispersed	Habitat importance map	0.0002
Hairy Tails	<i>Ptilotus erubescens</i>	502825	Vulnerable	Dispersed	Habitat importance map	0.0001
Purple Diuris	<i>Diuris punctata</i>	501084	Vulnerable	Dispersed	Habitat importance map	0.0001
Chestnut-rumped Heathwren	<i>Calamanthus pyrrhopygius</i>	10498	Vulnerable	Dispersed	Habitat importance map	0.0001
Fuzzy New Holland Daisy	<i>Vittadinia cuneata</i> var. <i>morrisii</i>	505060	Rare	Dispersed	Habitat importance map	0.0001
Speckled Warbler	<i>Chthonicola sagittatus</i>	10504	Vulnerable	Dispersed	Habitat importance map	0.0001
Small Milkwort	<i>Comesperma polygaloides</i>	500798	Vulnerable	Dispersed	Habitat importance map	0.0001
Lace Monitor	<i>Varanus varius</i>	12283	Endangered	Dispersed	Habitat importance map	0.0001
Long Eryngium	<i>Eryngium paludosum</i>	501238	Vulnerable	Dispersed	Habitat importance map	0.0001

Pale Flax-ily	<i>Dianella</i> sp. aff. <i>longifolia</i> ( <i>Riverina</i> )	507399	Vulnerable	Dispersed	Habitat importance map	0.0001
Austral Crane's-bill	<i>Geranium solanderi</i> var. <i>solanderi</i> s.s.	505337	Vulnerable	Dispersed	Habitat importance map	0.0001
Grey Goshawk	<i>Accipiter novae-hollandiae</i> <i>novae-hollandiae</i>	10220	Vulnerable	Dispersed	Habitat importance map	0.0001
Square-tailed Kite	<i>Lophoictinia isura</i>	10230	Vulnerable	Dispersed	Habitat importance map	0.0001
Buloke Mistletoe	<i>Amyema linophylla</i> subsp. <i>orientalis</i>	500217	Vulnerable	Dispersed	Habitat importance map	0.0001
Brolga	<i>Grus rubicunda</i>	10177	Vulnerable	Dispersed	Habitat importance map	0.0001
Rye Beetle-grass	<i>Tripogon loliformis</i>	503455	Rare	Dispersed	Habitat importance map	0.0000
Baillon's Crake	<i>Porzana pusilla palustris</i>	10050	Vulnerable	Dispersed	Habitat importance map	0.0000
Growing Grass Frog	<i>Litoria raniformis</i>	13207	Endangered	Dispersed	Habitat importance map	0.0000
Hardhead	<i>Aythya australis</i>	10215	Vulnerable	Dispersed	Habitat importance map	0.0000
Australasian Shoveler	<i>Anas rhynchothis</i>	10212	Vulnerable	Dispersed	Habitat importance map	0.0000
White-throated Needle-tail	<i>Hirundapus caudacutus</i>	10334	Vulnerable	Dispersed	Habitat importance map	0.0000
Black Falcon	<i>Falco subniger</i>	10238	Vulnerable	Dispersed	Habitat importance map	0.0000
Musk Duck	<i>Biziura lobata</i>	10217	Vulnerable	Dispersed	Habitat importance map	0.0000
Blue-billed Duck	<i>Oxyura australis</i>	10216	Endangered	Dispersed	Habitat importance map	0.0000
Eastern Great Egret	<i>Ardea modesta</i>	10187	Vulnerable	Dispersed	Habitat importance map	0.0000
Lewin's Rail	<i>Lewinia pectoralis pectoralis</i>	10045	Vulnerable	Dispersed	Habitat importance map	0.0000
Smooth Minuria	<i>Minuria integerrima</i>	502201	Rare	Dispersed	Habitat importance map	0.0000
Regent Honeyeater	<i>Anthochaera phrygia</i>	10603	Critically endangered	Dispersed	Habitat importance map	0.0000

**Habitat group**

- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

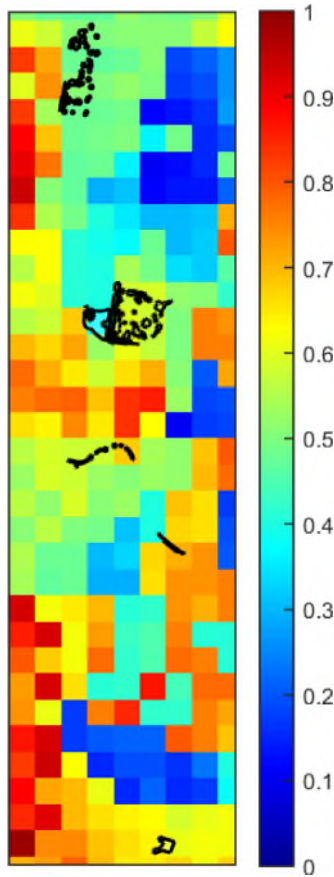
**Habitat impacted**

- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species

- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance scores in dispersed species habitat maps and selected VBA records
- Selected VBA record is an area in Victoria that represents a large population, roosting or breeding site etc.

# Appendix 3 – Images of mapped native vegetation

## 2. Strategic biodiversity values map



## 3. Aerial photograph showing mapped native vegetation



A



#### 4. Map of the property in context



Yellow boundaries denote areas of proposed native vegetation removal.

Red boundaries denote areas of past removal.



## **APPENDIX 4 AVAILABLE NATIVE VEGETATION CREDITS**

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# Report of available native vegetation credits

This report lists native vegetation credits available to purchase through the Native Vegetation Credit Register.

This report is **not evidence** that an offset has been secured. An offset is only secured when the units have been purchased and allocated to a permit or other approval and an allocated credit extract is provided by the Native Vegetation Credit Register.

Date and time: 07/07/2021 02:40

Report ID: 9788

## What was searched for?

### General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
1.105	0.397	37	CMA	North Central
			or LGA	Greater Bendigo City

## Details of available native vegetation credits on 07 July 2021 02:40

### These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-3031	9.861	179	North Central	Pyrenees Shire	Yes	Yes	No	VegLink
BBA-3052_01	13.492	279	North Central	Northern Grampians Shire	Yes	Yes	No	VegLink
VC_CFL-3071_01	3.299	156	North Central	Loddon Shire	Yes	Yes	No	VegLink
VC_CFL-3076_01	9.696	50	North Central	Pyrenees Shire	Yes	Yes	No	Bio Offsets
VC_CLO-2451_01	19.100	146	North Central	Greater Bendigo City	No	Yes	No	Contact NVOR
VC_CLO-3046_01	2.515	119	North Central	Greater Bendigo City	No	Yes	No	Contact NVOR

### These sites meet your requirements using alternative arrangements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
----------------	-----	----	-----	-----	------------	--------	-------------	-----------

There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

### These potential sites are not yet available, land owners may finalise them once a buyer is confirmed.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
----------------	-----	----	-----	-----	------------	--------	-------------	-----------

There are no potential sites listed in the Native Vegetation Credit Register that meet your offset requirements.

LT - Large Trees

CMA - Catchment Management Authority

LGA - Municipal District or Local Government Authority

## Next steps

### If applying for approval to remove native vegetation

Attach this report to an application to remove native vegetation as evidence that your offset requirement is currently available.

### If you have approval to remove native vegetation

Below are the contact details for all brokers. Contact the broker(s) listed for the credit site(s) that meet your offset requirements. These are shown in the above tables. If more than one broker or site is listed, you should get more than one quote before deciding which offset to secure.

## Broker contact details

Broker Abbreviation	Broker Name	Phone	Email	Website
Abezco	Abzeco Pty. Ltd.	(03) 9431 5444	offsets@abzeco.com.au	www.abzeco.com.au
Baw Baw SC	Baw Baw Shire Council	(03) 5624 2411	bawbaw@bawbawshire.vic.gov.au	www.bawbawshire.vic.gov.au
Bio Offsets	Biodiversity Offsets Victoria	0452 161 013	info@offsetsvictoria.com.au	www.offsetsvictoria.com.au
Contact NVOR	Native Vegetation Offset Register	136 186	nativevegetation.offsetregister@delwp.vic.gov.au	www.environment.vic.gov.au/native-vegetation
Ecocentric	Ecocentric Environmental Consulting	0410 564 139	ecocentric@me.com	Not available
Ethos	Ethos NRM Pty Ltd	(03) 5153 0037	offsets@ethosnrm.com.au	www.ethosnrm.com.au
Nillumbik SC	Nillumbik Shire Council	(03) 9433 3316	offsets@nillumbik.vic.gov.au	www.nillumbik.vic.gov.au
TFN	Trust for Nature	8631 5888	offsets@tfn.org.au	www.trustfornature.org.au
VegLink	Vegetation Link Pty Ltd	(03) 8578 4250 or 1300 834 546	offsets@vegetationlink.com.au	www.vegetationlink.com.au
Yarra Ranges SC	Yarra Ranges Shire Council	1300 368 333	biodiversityoffsets@yarraranges.vic.gov.au	www.yarraranges.vic.gov.au

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For more information contact the DELWP Customer Service Centre 136 186 or the Native Vegetation Credit Register at [nativevegetation.offsetregister@delwp.vic.gov.au](mailto:nativevegetation.offsetregister@delwp.vic.gov.au)

### Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Obtaining this publication does not guarantee that the credits shown will be available in the Native Vegetation Credit Register either now or at a later time when a purchase of native vegetation credits is planned.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes

## **APPENDIX 5 EPBC ACT PROTECTED MATTERS REPORT**

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# 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: 05/07/21 14:18:10

[Summary](#)

[Details](#)

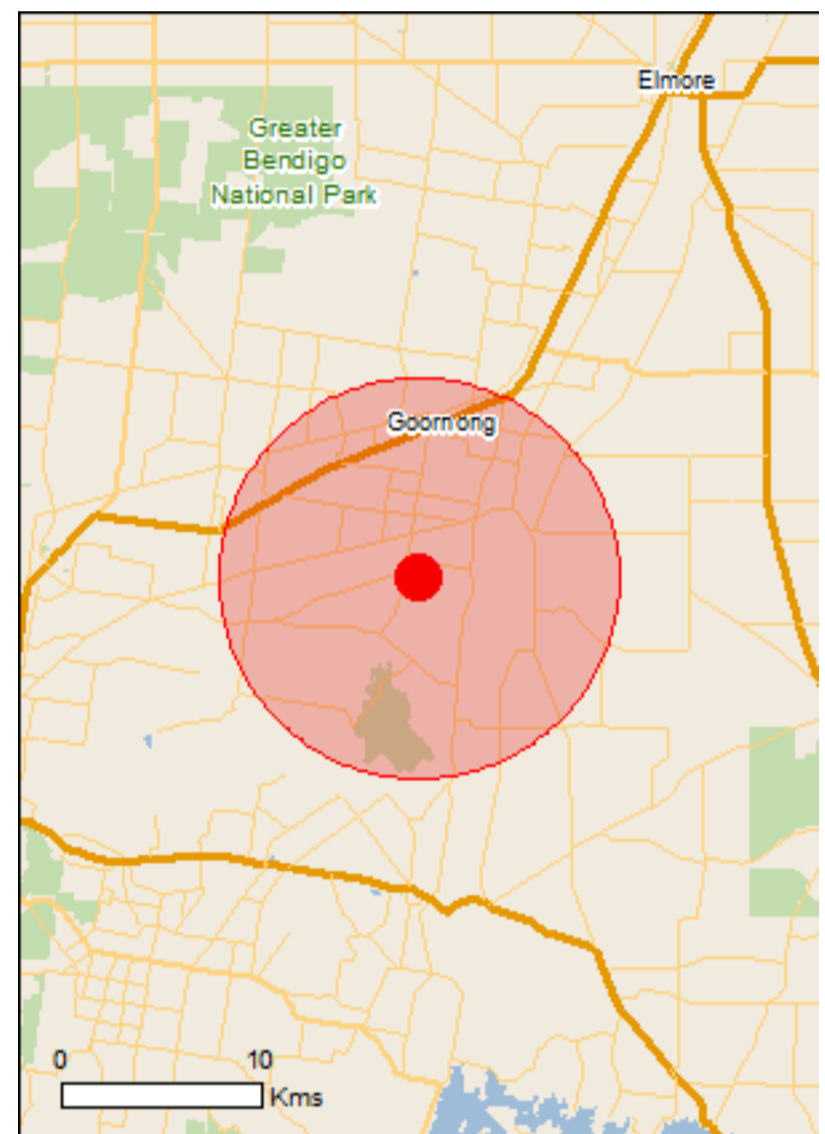
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2015

[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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	6
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	4
<a href="#">Listed Threatened Species:</a>	29
<a href="#">Listed Migratory Species:</a>	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.

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	17
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None

## Extra Information

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

<a href="#">State and Territory Reserves:</a>	13
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	36
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

# Details

## Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
<a href="#">Banrock station wetland complex</a>	400 - 500km upstream
<a href="#">Gunbower forest</a>	50 - 100km upstream
<a href="#">Hattah-kulkyne lakes</a>	200 - 300km upstream
<a href="#">Nsw central murray state forests</a>	50 - 100km upstream
<a href="#">Riverland</a>	400 - 500km upstream
<a href="#">The coorong, and lakes alexandrina and albert wetland</a>	400 - 500km 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
<a href="#">Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions</a>	Endangered	Community may occur within area
<a href="#">Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia</a>	Endangered	Community likely to occur within area
<a href="#">Natural Grasslands of the Murray Valley Plains</a>	Critically Endangered	Community may occur within area
<a href="#">White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</a>	Critically Endangered	Community likely to occur within area

## Listed Threatened Species [ Resource Information ]

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

Name	Status	Type of Presence
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pedionomus torquatus</a> Plains-wanderer [906]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Polytelis swainsonii</a> Superb Parrot [738]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<b>Fish</b>		
<a href="#">Galaxias rostratus</a> Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Maccullochella macquariensis</a> Trout Cod [26171]	Endangered	Species or species habitat may occur within area
<a href="#">Maccullochella peelii</a> Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area
<b>Frogs</b>		
<a href="#">Crinia sloanei</a> Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area
<a href="#">Litoria raniformis</a> Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat likely to occur within area
<b>Insects</b>		
<a href="#">Synemon plana</a> Golden Sun Moth [25234]	Critically Endangered	Species or species habitat may occur within area
<b>Mammals</b>		
<a href="#">Pteropus poliocephalus</a> Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<b>Plants</b>		
<a href="#">Amphibromus fluitans</a> River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Caladenia tensa</a> Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat may occur within area
<a href="#">Caladenia versicolor</a> Candy Spider-orchid [24392]	Vulnerable	Species or species habitat may occur within area
<a href="#">Dodonaea procumbens</a> Trailing Hop-bush [12149]	Vulnerable	Species or species habitat may occur within area
<a href="#">Glycine latrobeana</a> Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Lepidium monoplacoides</a> Winged Pepper-cress [9190]	Endangered	Species or species habitat may occur within area



Name	Status	Type of Presence
<a href="#">Pimelea spinescens subsp. spinescens</a> Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea [21980]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Prasophyllum validum</a> Sturdy Leek-orchid, Mount Remarkable Leek-orchid [10268]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Senecio macrocarpus</a> Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area

#### Reptiles

<a href="#">Aprasia parapulchella</a> Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Delma impar</a> Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat likely 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

<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
---	--	--

#### Migratory Terrestrial Species

<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat likely to occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat may occur within area

#### Migratory Wetlands Species

<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

## Other Matters Protected by the EPBC Act

### 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
<b>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Chrysococcyx osculans</a> Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rhipidura rufifrons</a> Rufous Fantail [592]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

## Extra Information

### State and Territory Reserves [\[ Resource Information \]](#)

Name	State
Axedale B.R.	VIC
Barnadown SS.R.	VIC
Campaspe River K39 SS.R.	VIC
Campaspe River K40 SS.R.	VIC
Campaspe River K41 SS.R.	VIC
Campaspe River, Axedale SS.R.	VIC
Crabhole Creek B.R.	VIC
Ellesmere B.R.	VIC
English Bridge SS.R.	VIC
Goornong H102 B.R.	VIC
Goornong H102A B.R.	VIC
Goornong H102B B.R.	VIC
Mount Sugarloaf N.C.R.	VIC

### 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 Resources Audit, 2001.

Name	Status	Type of Presence
<b>Birds</b>		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
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
Carduelis chloris European Greenfinch [404]		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

Name	Status	Type of Presence
Passer montanus		habitat likely to occur within area
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
<b>Mammals</b>		
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
Capra hircus		
Goat [2]		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
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 norvegicus		
Brown Rat, Norway Rat [83]		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
Vulpes vulpes		
Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
Alternanthera philoxeroides		
Alligator Weed [11620]		Species or species habitat likely to occur within area
Asparagus asparagoides		
Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cenchrus ciliaris		
Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area

Name	Status	Type of Presence
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		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
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to 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
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to 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
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		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

-36.67206 144.49764

# 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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