

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Macedon BESS

Ecological impact assessment

South Energy

Reference: P527802

Revision: C

2026-03-24

ADVERTISED
PLAN

aurecon
*Bringing ideas
to life*

Document control record

Document prepared by:

Aurecon Australasia Pty Ltd

ABN 54 005 139 873

Aurecon Centre

Level 8, 850 Collins Street

Docklands, Melbourne VIC 3008

PO Box 23061

Docklands VIC 8012

Australia

**ADVERTISED
PLAN**

T +61 3 9975 3000

F +61 3 9975 3444

E melbourne@aurecongroup.com

W aurecongroup.com

A person using Aurecon documents or data accepts the risk of:

- a) Using the documents or data in electronic form without requesting and checking them for accuracy against the original hard copy version.
- b) Using the documents or data for any purpose not agreed to in writing by Aurecon.

Document control						aurecon
Report title		Ecological impact assessment				
Document code			Project number		P527802	
File path		Macedon BESS Ecological Assessment Report				
Client		South Energy				
Client contact		Linh Nguyen				
Rev	Date	Revision details/status		Author	Reviewer	Approver
A	2024-11-29	First Draft		Justin Sullivan		Adam Rigg
B	2026-02-05	Update to incorporate targeted survey results, impact assessment and respond to DEECA comments		Jackie Manders, Justin Sullivan		Adam Rigg
C	2026-03-24	Update to impact assessment, to incorporate results of arboricultural assessment		Justin Sullivan		Adam Rigg
Current revision		C				

Approval			
Author signature		Approver signature	
Name	Justin Sullivan	Name	Adam Rigg
Title	Associate, Senior Ecologist	Title	Manager, Senior Ecologist

Executive summary

ADVERTISED PLAN

Aurecon was commissioned by South Energy on behalf of Macedon BESS Development Pty Ltd to undertake a flora and fauna assessment to inform the development of the Macedon Battery Energy Storage System (BESS) project, located between Gisborne and Macedon, north west of Melbourne. South Energy propose to develop the Macedon BESS in the southern portion of the study area.

The study area comprised a distinctly shaped parcel of private land between Macedon-Woodend Road and the Calder Freeway. The study area was mostly native vegetation, in the form of Grassy Forest (EVC 128). Native vegetation within the study area was categorised into two patches, one which comprised a remnant tree canopy, one lacking a tree canopy. The only part of the study area that did not support native vegetation was a dense infestation of noxious weeds, primarily Gorse (*Ulex europaeus*), in the south east part of the study area.

A total area of 7.168 hectares of Grassy Forest (EVC 128) was recorded within and continuous with the study area. This area included the presence of 70 large trees. One additional small scattered tree was recorded.

No listed threatened ecological communities or threatened flora species were recorded or considered likely to occur in the study area.

Three threatened fauna species have been considered as having a moderate likelihood of occurrence in the study area, namely the Gang-gang Cockatoo (*Callocephalon fimbriatum*), Powerful Owl (*Ninox strenua*) and Brush-tailed Phascogale (*Phascogale tapoatafa*). Targeted surveys were undertaken for Powerful Owl and Brush-tailed Phascogale, and neither species was recorded in the study area.

Impacts to ecological values have been minimised through the following key measures during the course of the project planning phase:

- Strategic placement – The project has been located to utilise the existing connection point at the adjoining Gisborne Substation. The proximity to the Gisborne Substation means no potential impacts are required from extensive transmission line infrastructure;
- Sensitive placement of BESS infrastructure - Project infrastructure has been located to minimise impacts to the highest quality native vegetation values in the study area. The project has been located to utilise the only area of non-native vegetation in the study area, so to reduce impacts on native vegetation.
- Consideration of alternative access locations - Access routes into the Project area have been located to minimise impacts to native vegetation and large trees as much as possible, while still meeting Country Fire Authority (CFA) requirements for two access points located at opposite ends.
- Further refinement through arborist inputs – The number of large trees (and hollow bearing trees) to be removed has been reduced based on assessment by consulting arborist.

Based on the project design, this assessment has determined that the Macedon BESS Project would result in the following impacts to ecological values:

- Removal of a total extent of 2.406 ha of native vegetation including:
 - 2.377 ha of removal of native vegetation in patches (including 10 large trees in patches); and
 - 0.028 ha of removal of scattered trees (i.e. one small scattered tree).
- Removal of 1.39 ha of potential foraging habitat for Gang-gang Cockatoo including 5 hollow bearing trees (considered unlikely to result in a significant impact)

The above impacts would result in the following key implications:

- Requirement for a permit to remove native vegetation under Clause 52.17, VPO9 and VPO2 of the Macedon Ranges Planning Scheme

- If approved, the proposed removal of native vegetation would result in an offset requirement of 1.377 general habitat units. The offset must be located in Melbourne Water CMA or Macedon Ranges Shire LGA, have minimum strategic biodiversity value (SBV) of 0.6214, and include 10 large trees.
- Based on an assessment undertaken against the EPBC Significant impact criteria, it has been determined that the project is unlikely to result in a significant impact on Gang-gang Cockatoo. As such, the project is not considered to require the preparation of a referral under the EPBC Act.

**ADVERTISED
PLAN**

Contents

ADVERTISED PLAN

1	Introduction.....	7
1.1	Project background.....	7
1.2	Scope and purpose of the assessment.....	7
1.3	Assumptions and limitations.....	7
2	Project overview.....	8
2.1	Study area location.....	8
2.2	Project description.....	8
3	Methods.....	10
3.1	Desktop assessment.....	10
3.1.1	Database search.....	10
3.1.2	Likelihood of occurrence analysis for threatened flora and fauna.....	10
3.1.3	Impact assessment.....	11
3.2	Ecological field assessment.....	12
3.2.1	Native vegetation assessment.....	12
3.2.2	Flora survey.....	13
3.2.3	Fauna habitat survey.....	13
3.2.4	Targeted Fauna Surveys.....	13
4	Results.....	15
4.1	Database review.....	15
4.2	Ecological assessment.....	15
4.2.1	Site description.....	15
4.2.2	Native vegetation.....	17
4.2.3	Threatened Ecological Communities.....	19
4.2.4	Flora.....	20
4.2.5	Fauna.....	21
4.3	Targeted Fauna Surveys.....	23
4.3.1	Powerful Owl.....	24
4.3.2	Brush-tailed Phascogale.....	24
5	Proposed impacts and implications.....	27
5.1	Details of the proposed development.....	27
5.2	Potential impacts to ecological values.....	27
5.2.1	Proposed impacts to native vegetation.....	27
5.2.2	Potential impacts to listed matters.....	28
5.3	Potential implications under relevant environmental legislation and policy.....	33
5.3.1	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	33
5.3.2	<i>Environment Effects Act 1978</i>	34
5.3.3	<i>Flora and Fauna Guarantee Act 1988</i>	34
5.3.4	<i>Planning and Environment Act 1987</i>	35
5.3.5	<i>Wildlife Act 1975 and Wildlife Regulations 2002</i>	38
5.3.6	<i>Catchment and Land Protection Act 1994</i>	38
6	Summary and recommendations.....	39
6.1	Summary.....	39
6.2	Recommendations.....	40

Figures

- Figure 1: Study area
Figure 2: Ecological values recorded within the study area
Figure 3: Krefft's Glider, Camera 2
Figure 4: Ringtail Possum, Camera 1
Figure 5: Swamp Wallaby, Camera 3
Figure 6: European Fox, Camera 10
Figure 7: Targeted fauna survey locations
Figure 8: Proposed development impacts to ecological values

Tables

Table 3-1	Likelihood of occurrence criteria for threatened flora species	11
Table 3-2	Likelihood of occurrence criteria for threatened and migratory fauna species	11
Table 3-3	Summary of field assessments undertaken within the Project area	12
Table 4-1	Details of native vegetation (habitat zones) recorded in the study area.....	17
Table 4-2:	Assessment of potential occurrence of threatened ecological communities in the study area	19
Table 4-3:	Weather conditions of nocturnal targeted fauna survey	23
Table 4-4:	Timing of targeted nocturnal fauna surveys	23
Table 4-5:	Fauna recorded during targeted dusk watch and spotlighting surveys	23
Table 4-6:	Results of camera trapping survey	24
Table 5-1:	EPBC Significant Impact Assessment for Gang-gang Cockatoo	29
Table 5-2	Summary of Matters of National Environmental Significance (MNES) relevant to the search area	33
Table 5-3:	Summary of information from the Native Vegetation Removal Report.....	37
Table 6-1:	Summary of proposed impacts	39
Table 6-2:	Summary of legislative implications	39

Appendices

- Appendix A: Permitted clearing assessment (the Guidelines)
Appendix B: Vegetation quality assessment results
Appendix C: Native tree data (Large trees in patches and Scattered Trees)
Appendix D: Flora and fauna recorded in study area
Appendix E: Likelihood of occurrence analysis of threatened flora
Appendix F: Likelihood of occurrence analysis of threatened fauna
Appendix G: EPBC Act Protected Matters Search Tool (PMST) Report
Appendix H: Native Vegetation Removal Report
Appendix I: Evidence that appropriate Native Vegetation offsets are available

**ADVERTISED
PLAN**

1 Introduction

1.1 Project background

Aurecon was commissioned by South Energy on behalf of Macedon BESS Development Pty Ltd to undertake a flora and fauna assessment to inform the development of the Macedon Battery Energy Storage System (BESS) project, located between Gisborne and Macedon, north west of Melbourne.

This report documents the sources of information, methods and findings of the flora and fauna assessment. This assessment report has been prepared to inform the planning application for the project and to determine the implications of the project under relevant Commonwealth and state environmental legislation, particularly the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Environment Effects Act 1978* (EE Act), *Flora and Fauna Guarantee Act 1988* (FFG Act) and *Planning and Environment Act 1987*.

1.2 Scope and purpose of the assessment

The purpose of the ecological assessment was to provide an assessment of the biodiversity values at the project site, including an assessment of any potential impacts to native vegetation and/or significant flora, fauna and ecological communities. This assessment identifies the environmental approvals that may be triggered under Commonwealth and state legislation. This assessment also provides identification of any key risk areas of the project site and recommendations for locating project infrastructure to avoid impacts.

The scope of the ecological assessment was to:

- Undertake a review of existing ecological information for the project site, including preparation of database searches for native vegetation, flora and fauna;
- Undertake an ecological field survey to determine the type, extent and quality of native vegetation and fauna habitat present in the study area;
- Identify any significant ecological values (including threatened species or communities) that have potential to occur in the study area;
- Identify the potential implications for the project based on relevant biodiversity legislation and policy;
- Provide recommendations to assist with project design and locating of project infrastructure; and
- Identify the need for any future targeted surveys.

1.3 Assumptions and limitations

The outcomes of this report are limited to the ecological assessment undertaken for the project site and immediate surrounds. This report is limited to the scope defined in Section 1.2. Should further information become available regarding the conditions at the project site, Aurecon reserves the right to review the report in the context of the additional information.

Ecological assessments can be undertaken at any time of year, however seasonal variations can result in some flora and fauna not being detectable at certain times. Particularly, many flowering plant species are only detectable when producing flowers or fruits. In general, spring is considered the optimal period to undertake ecological field assessments in Victoria. The spring timing of the ecological field survey that informed this assessment was suitable to ascertain the extent and condition of native vegetation and habitat in the study area.

**ADVERTISED
PLAN**

2 Project overview

2.1 Study area location

The study area for this investigation is a triangular piece of land between Gisborne and Macedon, to the north west of Melbourne. The study area was bounded to the east by Macedon-Woodend Road (also referred to as Black Forrest Road), to the south east by the Gisborne Substation, to the south west by the Calder Freeway, and to the north by Allison Lane.

The study area mainly comprised private land, though included the adjoining road reserves of Macedon-Woodend Road (western side of road only) and Allison Lane.

The study area for this investigation is shown in Figure 1.

2.2 Project description

South Energy propose to develop the Macedon BESS in the southern portion of the study area.

Following consideration of various access options for the Project, two final access points are proposed, including one from Macedon-Woodend Road and another from Allison Lane in the north. The connection point for the Project is the Gisborne Substation (66kV) which adjoins the site to the south east.

**ADVERTISED
PLAN**

Path: C:\Users\Ling Hsu\Aurecon Group\SAVI Spatial - Documents\Project Work\U0302_D20225_Macedon_BESS\Proj\P527802_Macedon_BESS_Bushfire.aprx

Author: Ling Hsu



- Legend**
- Study Area
 - Property
 - Local Government Area

ADVERTISED PLAN

Notes:

Basemap: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Other data: DELWP, Aurecon

Date: 30/01/2026 Version: 4



A3 scale: 1:3,000
0 50 100 Metres

Job No: P527802
Coordinate System: GDA2020 MGA Zone 55

3 Methods

3.1 Desktop assessment

The desktop assessment comprised a review of current databases for information on native vegetation and threatened flora, fauna and ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Flora and Fauna Guarantee Act 1988* (FFG Act).

The methods adopted for the database search, likelihood of occurrence and impact assessment are outlined in the following sections.

3.1.1 Database search

The database searches undertaken for the Project provided a shortlist of the potential flora, fauna and ecological communities that may occur within 10 km of the study area. Database information was obtained from a circular search area with a radius of 10 km centred on the study area (coordinates: latitude 37° 27' 04" S and longitude 144° 34' 25" E). Threatened species with records from prior to 1990 have been discarded, and not included in the analysis of likelihood of occurrence.

Records from the following databases were collated and reviewed for the search area:

- Protected Matters Search Tool (PMST) of the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) for matters protected by the EPBC Act (DCCEEW 2024a, See Appendix G); and
- The Victorian Biodiversity Atlas (DEECA 2024a) for records of listed threatened flora and fauna species.

The following information was also reviewed for the study area as part of the desktop assessment:

- The Victorian Native Vegetation Information Management System (NVIM) (DEECA 2024b);
- NatureKit (DEECA 2024c);
- VicPlan (DTP 2024); and
- Aerial imagery.

3.1.2 Likelihood of occurrence analysis for threatened flora and fauna

The likelihood of occurrence of all threatened flora and fauna species collated in the database search was considered for the study area. The following threatened species were considered as part of this assessment:

- Flora listed as threatened under the EPBC Act;
- Fauna listed as threatened and/or migratory under the EPBC Act; and
- Flora and fauna listed as threatened under the FFG Act.

Each of these species were considered against the suitability of habitat, to determine their likelihood of occurrence in the study area. The likelihood of a species occurring within the study area was classified as 'Negligible', 'Low', 'Moderate' or 'High' based on the consideration of:

- The presence/absence of previous records in the search region (as returned from the database search);
- The known habitat requirements and distribution of the species; and
- The suitability of habitat in the study area (based on the findings of the overview field assessment, and previous reports for the site).

The likelihood of occurrence of ecological communities are also considered in this report.

Details of the ranking criteria used to determine likelihood of occurrence of threatened flora and fauna in the study area are provided in Table 3-1 and Table 3-2. Those determined to have a high to moderate likelihood of occurrence in the study area are considered further and discussed in Sections 4.2.4 and 4.2.5.

Table 3-1 Likelihood of occurrence criteria for threatened flora species

Likelihood of Occurrence	Criteria
High	Recent records of the species in the local vicinity (i.e. within the last 10 years)
	Known resident in the area based on site observations, database records or expert advice and/or the project area contains high quality habitat
Moderate	Previous reputable records of the species in the local vicinity and/or the project area contains moderate quality habitat
Low	Limited previous records of the species in the local vicinity; and/or, the project area contains poor or limited habitat. May also be considered low if other environmental factors are present such as fragmented or isolated habitat
Negligible	No suitable habitat and/or the project area falls outside the known species range

Table 3-2 Likelihood of occurrence criteria for threatened and migratory fauna species

Likelihood of Occurrence	Criteria
High	Known resident in the area based on site observations, database records or expert advice
	Recent reputable records (within 5 years) of the species in the local area
	The project area contains the species' preferred habitat
Moderate	The species is likely to visit the project area regularly (i.e. at least seasonally)
	Previous reputable records of the species in the local area
	The project area contains some characteristics of the species' preferred habitat
Low	The species is likely to visit the project area occasionally or opportunistically whilst en-route to more suitable sites
	There are only limited or historical records of the species in the local area (>20 years old)
	The project area contains few or no characteristics of the species' preferred habitat
Negligible	No previous records of the species in the local area
	Previous records of the species exist in the local area but >30 years old
	The species may fly over the area when moving between areas of more suitable habitat
	Out of the known species' range
	No suitable habitat present within the project area
	Species is known to be regionally extinct

3.1.3 Impact assessment

Listed threatened species and ecological communities determined as having a High or Moderate likelihood of occurrence in the project area are then considered further regarding the level of likely impact on these values from the proposed development.

**ADVERTISED
PLAN**

3.2 Ecological field assessment

A summary of all ecological field assessments undertaken within the Project area is provided in Table 3-3. Details of all surveying undertaken to date is provided below.

Table 3-3 Summary of field assessments undertaken within the Project area

Assessment	Date	
Initial flora and fauna field assessment	23 rd October 2024	▪ Native vegetation assessment ▪ Flora and fauna habitat assessment ▪ Targeted flora survey
Targeted fauna surveys	28 th May to 11 th June 2025	▪ Call playback and spotlighting for Powerful Owl ▪ Camera traps, dusk watch surveys and spotlighting for Brush-tailed Phascogale
Supplementary native vegetation assessment at Allison Lane	13 th November 2025	▪ Additional assessment of native vegetation near intersection with Macedon-Woodend Road and Allison Lane

Initial flora and fauna field assessment was undertaken within the study area on the 23rd of October 2024. This initial assessment included:

- Detailed assessment of all patches of native vegetation, including detailed mapping of extent, classification to Ecological Vegetation Class (EVC) and habitat hectare assessment to determine a Condition Score for each patch
- Mapping, identification to species and assessment of diameter at breast height (DBH) of all scattered trees and large trees within patches
- Mapping and assessment of habitats considered suitable to support threatened species and/or classify as threatened ecological communities
- Compilation of a detailed flora species list for the study area
- Compilation of an incidental fauna species list for the study area
- Assessment of the likelihood of occurrence of threatened species based on assessment of the presence and quality of habitats within the study area.

To account for potential impacts from the updated access tracks design, a supplementary field assessment was undertaken on 13th November 2025 to assess additional native vegetation either side of the intersection with Macedon-Woodend Road and Allison Lane.

Further details of the various elements of the detailed ecological investigation are provided below.

3.2.1 Native vegetation assessment

The native vegetation assessment was undertaken by three suitably experienced ecologists, Justin Sullivan (Associate Ecologist), Leah Mann (Senior Ecologist) and Jackie Manders (Senior Ecologist), each with appropriate skills in the identification of Victoria's flora and fauna. All three ecologists have current accreditation to undertake the assessment of native vegetation as listed on DEECA's Vegetation Quality Assessment Competency Register. The assessment was undertaken on foot.

All native vegetation (including patches and scattered trees) recorded in the Project area was mapped using Esri ArcGIS Field Maps on a device with in-built GPS (with 4-5 metre accuracy). Patches of native vegetation were classified to Ecological Vegetation Class (EVC), a Vegetation Quality Assessment (VQA) was undertaken, and a determination was made as to whether the patch fulfilled either FFG Act and/or EPBC Act listed Threatened Ecological Community (TEC) criteria. All scattered trees were identified to species and

their diameter at breast height (DBH) was measured. The assessment of native vegetation undertaken was consistent with Victoria's Habitat Hectare method (DSE 2004) and the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2025a) (herein referred to as 'the Guidelines').

3.2.2 Flora survey

A detailed vegetative description of the study area was recorded along with a list of the flora species observed. The presence of any suitable habitat for threatened flora species was recorded and mapped, to inform the likelihood of occurrence analysis and inform the potential requirement for future targeted species surveys. Areas of weed infestation were also mapped during the survey.

The desktop review initially identified that several listed threatened flora species may be present within the survey area based on the presence of recent records in the region, and potential habitat in the study area. As such, targeted flora surveying was undertaken as part of the site assessment. Details of the methods adopted for the targeted survey are provided in the following section.

Targeted flora surveys

As part of the initial ecological site assessment on 23 October 2024, a targeted flora survey was undertaken within all areas of suitable habitat in the study area. The targeted survey involved two ecologists surveying visually along 5m wide transects. All areas of the study area were subject to the targeted survey with the exception of mapped areas of weed infestation for which the ground layer was heavily disturbed and covered by Gorse (*Ulex europaeus*) and/or Blackberry (*Rubus fruticosus*) (See Figure 2 for extent of weed infestations in the study area). Any additional flora species recorded during the targeted survey were identified and noted in the flora list. Locations of any threatened species were recorded.

3.2.3 Fauna habitat survey

A list of all fauna species observed within the project area was recorded through active searching, and general observations. The presence of any suitable habitat for threatened fauna species was recorded and mapped, to inform the likelihood of occurrence analysis as well as the potential requirement for future targeted fauna surveys. To inform the potential for the site to support threatened hollow-dependent fauna, notes were recorded for any trees observed with hollows.

3.2.4 Targeted Fauna Surveys

Potential habitat for Powerful Owl (*Ninox strenua*) and Brush-tailed Phascogale (*Phascogale tapoatafa*) was recorded within the study area as part of the initial assessment. Both species are listed as Vulnerable under the *Flora and Fauna Guarantee Act 1988* (FFG Act). Suitable habitat within the study area consisted of eucalypt forest, with many large trees, some bearing hollows of sufficient size to support the targeted threatened nocturnal fauna species.

Given the presence of suitable habitat, targeted surveys for these threatened species were subsequently undertaken within the study area. Surveys for Powerful Owl consisted of call playback events and spotlighting transect surveys, in accordance with the Victorian *Approved Survey Standards: Powerful Owl, Ninox strenua* (DSE, 2011). Surveys for Brush-tailed Phascogale consisted of camera trap surveys, plus dusk watch and spotlighting, in accordance with the Commonwealth *Survey Guidelines for Australia's threatened mammals* (DSEWPaC, 2011). Details of targeted surveys are provided below.

Powerful Owl

The survey methodology for Powerful Owl has been designed in accordance with the Victorian *Approved Survey Standards: Powerful Owl, Ninox strenua* (DSE, 2011) (the Standards).

The Standards specify at least five nights of survey, to establish an acceptable likelihood that if a Powerful Owl is nesting or roosting regularly close to the site it would be detected. Surveys included dusk stag watching, call playback and transect spotlight surveys. The purpose of the survey is to demonstrate

presence or effective absence. As there is evidence that in extensive forests almost every part of the forest will be visited by owls at some time, the challenge is to identify areas of forest that are of more or less importance to owls, rather than seek a non-existent divide between areas where they are present or absent (DSE, 2011).

The Powerful Owl Survey Standards specify May to October as the most ideal time to survey to best detect the presence of Powerful Owl, however, July and August are less favourable as this is early in the breeding season when the owls are pairing up, and call playback may disturb their behaviour (DSE, 2011).

Surveys for Powerful Owl was undertaken over five day-nights, on 28 and 29 May, and 3, 4, and 11 June 2025. Surveys on 28 May included a daytime site walkover, to identify suitable hollow-bearing trees and stags for the dusk watch surveys. Each evening survey involved dusk watches of stags or hollow-bearing trees, commencing early in the evening and concluding once it was fully dark. These surveys consisted of an ecologist standing quietly near the hollow-bearing tree or stag, and watching to see if any fauna emerged. Each evening two ecologists watched two separate hollow-bearing trees or stags. Once it was fully dark, a call playback survey was undertaken, consisting of two minutes of Powerful Owl call playback, followed by three minutes of listening, repeated three times. Both ecologists were present for the call playback, watching and listening in opposite directions.

After the call playback survey was completed, spotlighting surveys were undertaken. Spotlighting consisted of two ecologists using spotlights with red filters to look for nocturnal fauna. Spotlight searching moved at a speed of approximately 15 minutes per 200 meters, with ecologists focusing on opposite directions of the route followed.

During all stages of the survey, any nocturnal fauna observed was recorded.

Surveys were undertaken in suitable weather conditions, in accordance with the Standards. Dusk watch requires calm, fine weather with low ambient noise levels. Call playback and spotlighting are best conducted in calm dry weather, though light rain is also acceptable. Wind speeds of over 5 on the Beaufort Scale are unsuitable for surveys (DSE, 2011).

Ambient noise from the Calder Freeway was unavoidable, which may have reduced the efficacy of the call playback survey in attracting any owls to the survey site.

ADVERTISED PLAN

Brush-tailed Phascogale

The survey methodology for Brush-tailed Phascogale was designed in accordance with *Survey Guidelines for Australia's threatened mammals* (DSEWPaC, 2011) (the Guidelines). As Brush-tailed Phascogale is not listed under the EPBC Act, there are no species-specific guidelines, however, general guidelines are applicable, and the Guidelines do include survey requirements for the related Red-tailed Phascogale (*Phascogale calura*) which is ecologically similar.

Camera trapping has been found to be the most effective method of detecting species at low or moderate densities and are useful for detecting species that are difficult to study due to their elusive or nocturnal habits (DSEWPaC, 2011). Using a food-based attractant is recommended for detection surveys, and baited remote cameras have been found to be successful in detecting small mammals (DSEWPaC, 2011). It is recommended that camera trap surveys be combined with other survey techniques, which has been achieved with the dusk watch and spotlighting surveys also carried out.

Ten cameras were deployed for 14 nights, which meets the Guidelines requirements (DSEWPaC, 2011). The cameras were generally positioned between 0.5m and 2.5m above the ground, with the camera attached to an upright tree-trunk or branch, and a bait station positioned 1-2m away on a horizontal branch. The bait stations were filled with a mixture of peanut butter, oats, honey and sardines.

The cameras were deployed on 28 May 2025. The cameras were checked after one week, where the photos were retrieved, the bait was replenished, and the batteries were checked. Any adjustments to the camera angle were also undertaken. Two cameras, Camera 1 and Camera 6 were relocated to the ground in the same location after the first week to get a wider snapshot of fauna present. The cameras were then left for a further week, before being collected on the 11th of June 2025.

4.1 Database review

The review of the relevant databases (PMST and VBA) returned 44 listed threatened flora species and 48 listed threatened and/or migratory fauna species (including 27 birds, eight mammals, six reptiles, three frogs, three fish and one invertebrate) in the 5 km search area. Details of these species habitat requirements as well as an analysis of the likelihood of occurrence in the study area is provided in Appendix E and F.

The study area lies within the Central Victorian Uplands bioregion and falls within the Melbourne Water Catchment Management Authority (CMA) area and the Macedon Ranges Shire Local Government Area (LGA). The study area is zoned Rural Conservation Zone (RCZ1).

The portion of the study area in private land is subject to Vegetation Protection Overlay – Schedule 9 (VPO9), while the portion of the study area in public land (ie along Macedon-Woodend Road and along Allison Lane) is subject to Vegetation Protection Overlay – Schedule 2 (VPO2). The far north west corner of the study area is subject to Environmental Significance Overlay - Schedule 5 (ESO5). The purpose and implications of these overlays are discussed in Section 5.3.4.

4.2 Ecological assessment

4.2.1 Site description

The study area comprised a distinctly shaped parcel of private land between Macedon-Woodend Road and the Calder Freeway. Existing access was available from the north via Allison Lane. Native vegetation (Grassy Forest – EVC 128) within the study area was categorised into two patches/habitat zones detailed as follows:

- **Habitat Zone 1 (HZ1)** – This habitat zone comprised the majority of the study area and was distinguished by the presence of an intact tree canopy (Photos 1 and 2). HZ1 supported a healthy canopy of Manna Gum (*Eucalyptus viminalis*), Messmate Stringybark (*E. obliqua*), Narrow-leaved Peppermint (*E. radiata*) and Broad-leaved Peppermint (*E. dives*), 70 trees of which were classified as large (i.e. had a diameter at breast height [DBH] ≥ 70 cm, as per the Grassy Forest (EVC 128) EVC benchmark (Photo 3). Habitat Zone 1 included the western road reserve of Macedon-Woodend Road and the southern road reserve of Allison Lane given the canopy connectivity with the native vegetation in the private land. Of the 70 large trees recorded in HZ1, 23 were observed to be hollow-bearing and 10 were dead.

The understorey of HZ1 supported a diversity of native flora species including grasses (Red-anther Wallaby-grass (*Rytidosperma pallidum*), Weeping Grass (*Microleana stipoides*) and Kangaroo Grass (*Themeda triandra*)), herbs (Bulbine Lily (*Bulbine bulbosa*), Pale Sundew (*Drosera peltata*) and Slender Sun-orchid (*Thelymitra pauciflora*)) and shrubs (Black Wattle (*Acacia dealbata*), Blackwood (*A. melanoxylon*) and Grey Parrot-pea (*Dillwynia cinerascens*)), however the Gorse infestation encroached into HZ1 through the central part of the study area, where it dominated the understorey (Photo 4).

- **Habitat Zone 2 (HZ2)** – This habitat zone was limited to the southern portion of the study area, and was distinguished from HZ1, as it lacked a tree canopy (Photo 5). While the original tree layer was largely absent in HZ2, the ground layer was dominated by native flora, predominantly grasses (Kangaroo Grass, spear grass (*Austrostipa* spp.), wallaby grass (*Rytidosperma* spp.)) and herbs (including Onion Orchid (*Microtis* spp.), Slender Speedwell (*Veronica gracilis*), Pale Sundew, Slender Sun-orchid and Wiry Buttons (*Leptorhynchus tenuifolius*)) (Photo 6).

The only part of the study area not classified as native vegetation (excluded from Habitat Zones 1 and 2) occurred in the south east part of the study area, and consisted of dense infestation of noxious weeds, primarily Gorse.



Photo 1: HZ1 (along Macedon-Woodend Road)



Photo 2: Eastern section of HZ1



Photo 3: Large Manna Gum in HZ1



Photo 4: Section of HZ1 with Gorse (weed infestation) in understorey



Photo 5: Native ground layer of HZ2



Photo 6: Slender Sun-orchid (*Thelymitra pauciflora*) recorded in HZs 1 and 2

**ADVERTISED
PLAN**

4.2.2 Native vegetation

Types of native vegetation that may be present within the study area were ascertained through the database review (DEECA 2024b; DEECA 2024c). This review noted the presence of three main pre-1750 modelled vegetation communities within and nearby to the study area, namely Valley Grassy Forest (EVC 47), Plains Grassy Woodland (EVC 55) and Grassy Forest (EVC 128).

The field survey confirmed the presence of Grassy Forest (EVC 128) across the study area in Habitat Zones 1 and 2. Native vegetation in the study area was classified as this EVC as it matched the description and dominant canopy species as noted in the Grassy Forest (EVC 128) published EVC benchmark.

Patches of native vegetation

As per the assessment methodology outlined in the Guidelines, areas of uniform quality for each EVC within patches are termed 'habitat zones' and are assessed separately. Two habitat zones were identified in the study area, as shown in Figure 2 and detailed in Table 4-1. Detailed results of the vegetation quality assessment are provided in Appendix B.

A total of 70 large trees were recorded in HZ1. Details of large trees in patches are provided in Appendix C.

Table 4-1 Details of native vegetation (habitat zones) recorded in the study area

Habitat Zone	EVC	Bioregional Conservation Status	Area (ha)	Number of Large Trees	VQA Score
HZ1	Grassy Forest (EVC 128)	Vulnerable	6.138	70	51
HZ2	Grassy Forest (EVC 128)	Vulnerable	1.03	0	33
Totals			7.168	70	

Scattered trees

In addition to native vegetation recorded in patches, one scattered tree was recorded in the Project area. Scattered trees recorded are considered to once have comprised the canopy component of Grassy Forest (EVC 128). The scattered tree recorded was a small Manna Gum, with a DBH of 12 cm. Further details of the scattered tree recorded is provided in Appendix C.

**ADVERTISED
PLAN**

Path: C:\Users\Dominic.Borrelli\Aurecon Group\SAVI Spatial - Documents\Project Work\UN302_Macedon_BEES\ProjD29225_Macedon_BEES.aprx

Author: Dominic.Borrelli



aurecon



Legend

- Large tree in patch
- Scattered tree - Small
- Hollowbearing Tree
- TPZ
- Study Area
- Property
- Local Government Area
- Weed Infestation**
- Blackberry
- Gorse
- Native Vegetation Patch**
- Grassy Forest (EVC 128)

ADVERTISED PLAN

Basemap: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Data source: Aurecon (2025), DELWP (2025)

Date: 25/03/2026

Version: 7



A3 scale: 1:1,800

0 50 100 Metres

Job No: P527802
Coordinate System: GDA2020 MGA Zone 55

Macedon BESS
Ecological Values

ADVERTISED PLAN

4.2.3 Threatened Ecological Communities

Five EPBC Act listed threatened ecological communities were listed in the PMST as having potential to occur within 10 km of the study area (DCCEEW 2024a). These included:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Critically Endangered)
- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Endangered)
- Natural Temperate Grassland of the Victorian Volcanic Plain (Critically Endangered)
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (Critically Endangered)
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered)

Assessment against the listing criteria for each of the EPBC Act listed threatened ecological communities noted in the PMST is provided below in Table 4-2.

Table 4-2: Assessment of potential occurrence of threatened ecological communities in the study area

Threatened Ecological Community	Summary of key features/thresholds for classification as TEC	Assessment of potential for occurrence in study area
Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Critically Endangered)	■ Occurs within Victorian Volcanic Plain (VVP) bioregion. ■ Dominated/distinguished by River Red Gum tree canopy. ■ Minimum patch size > 0.5 ha ■ Native grass genera (<i>Themeda</i>, <i>Rytidosperma</i>, <i>Austrostipa</i>, <i>Poa</i> and/or <i>Microlaena</i>) must account for at least 50% of the perennial ground layer cover. Reference: (TSSC 2009)	Study area falls outside of VVP bioregion. No River Red Gum recorded in the study area. Native vegetation in the study area does not match the criteria for this TEC. This TEC does not occur in the study area.
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Endangered)	■ Must comprise open woodland with at least 50% canopy crown cover dominated by Grey Box ■ Less than 30% vegetative cover of non-grassy weeds ■ For smaller patch sizes, the vegetation must have at least 50% vegetative cover of perennial native species and at least 8 perennial native species must be present in the ground layer. ■ Minimum patch size ≥ 0.5 ha Reference: (TSSC 2010)	No Grey Box recorded in the study area. Native vegetation in the study area does not match the criteria for this TEC. This TEC does not occur in the study area.
Natural Temperate Grassland of the Victorian Volcanic Plain (Critically Endangered)	■ Total perennial tussock cover represented by the native grass genera (<i>Themeda</i>, <i>Rytidosperma</i>, <i>Austrostipa</i> or <i>Poa</i>) must be at least 50% ■ Cover of non-grassy weeds must be less than 30% of total vegetation cover at any time of the year. Reference: (TSSC 2016)	While some portions of the study area comprised a native ground cover, including <i>Themeda</i> (Kangaroo Grass), the study area falls outside of the VVP bioregion, and did not meet the 50% cover threshold. Native vegetation in the study area does not match the criteria for this TEC. This TEC does not occur in the study area.

Threatened Ecological Community	Summary of key features/thresholds for classification as TEC	Assessment of potential for occurrence in study area
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (Critically Endangered)	- Characterised by isolated, freshwater wetlands that are usually inundated on a seasonal basis through rainfall, then dry out, so surface water is not permanently present - Total cover of plants in the ground layer must include ≥50% native species characteristic to the TEC - Minimum patch size ≥ 0.5 ha - Trees and shrubs sparse to absent Reference: (TSSC 2012)	No seasonal wetlands recorded in the study area. Native vegetation in the study area does not match the criteria for this TEC. This TEC does not occur in the study area.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered)	- Characterised by dominance of White Box, Yellow Box or Blakely's Red Gum ≥12 native non-grassy species present, including a rare/uncommon regionally significant species - Treed type of this TEC must be ≥2ha - Treeless type of this TEC must be ≥0.1 ha Reference: (TSSC 2006).	No White Box, Yellow Box or Blakely's Red Gum recorded in the study area. Native vegetation in the study area does not match the criteria for this TEC. This TEC does not occur in the study area.

As detailed in Table 4-2, no native vegetation that matched the criteria for any of the above EPBC Act listed communities was recorded in the study area.

No FFG Act listed ecological communities were identified during the desktop assessment, and this was confirmed during the site assessment.

As such, it is confirmed that no EPBC Act or FFG Act listed ecological communities occur in the study area.

4.2.4 Flora

The study area largely supports a mixed canopy of eucalypts, over a diverse understorey of native grasses, herbs and shrubs (See further details in Section 4.2.1). The exception to this is the infestation of Gorse (a noxious weed species) that occurs in a dense band through the centre of the study area.

During the field assessment 60 flora species were recorded, 85% of which were native species. A full list of the flora species recorded in the study area is provided in Appendix D.

No threatened flora species were recorded within the study area. An analysis of the likelihood of occurrence of threatened flora species returned in the database searches is provided in Appendix E.

Given the presence of a diverse, native ground layer through most of the study area, it was initially considered that the study area may have the potential to support various threatened flora species (including threatened trees, shrubs and ground flora species). As such, a targeted flora survey was undertaken as part of the initial site visit (in October). While the targeted survey noted the presence of a large number of common orchids and herbs (particularly including Slender Sun-orchid, Common Onion Orchid (*Microtis unifolia*) and Pale Sundew), no threatened flora species were recorded. Given the majority of threatened flora returned in the database searches are known to flower over October, and they were not recorded during the targeted survey, it was concluded that all listed threatened flora species have a negligible to low likelihood of occurrence in the study area. Furthermore, the disturbance to the ground layer in other parts of the study area (i.e. the infestation of Gorse) was considered further reason to conclude that no threatened flora species are likely to occur in the study area.

**ADVERTISED
PLAN**

4.2.5 Fauna

Fauna habitat within the study area consisted of forest and previously cleared/grassy habitats. Fauna habitats recorded in the study area are described below.

- Forest habitat – This habitat comprised a mixed canopy of eucalypts including Narrow-leaf Peppermint, Broad-leaf Peppermint, Messmate Stringybark and Manna Gum. The understorey was largely native comprising a diverse mix of grasses, herbs and shrubs, with the exception of a portion which was dominated by Gorse (noxious weed). This habitat type aligned with HZ1, and comprised a high proportion of mature, large trees, several of which had obvious hollows. This habitat type was observed to support a diversity of common bird species. The large, hollow-bearing trees provide potential breeding habitat for threatened fauna that occur in the region, namely Powerful Owl and Brush-tailed Phascogale.
- Cleared/grassy habitat – This habitat type aligned with HZ2, and supported a largely treeless area, dominated by native grasses and herbs. This habitat type supported Eastern Grey Kangaroo (*Macropus giganteus*); a mob of 25+ individuals was observed on site at the time of the site investigation.

A total of 26 fauna species were recorded in the study area, two of which were introduced species. Most (22 of the 26) fauna species recorded in the study area during the site visit were birds. The remaining fauna recorded included Eastern Grey Kangaroo, Swamp Wallaby (*Wallabia bicolor*), European Hare (*Lepus europaeus*) (introduced) and Yabby/Burrowing Crayfish (*Cherax/Engaeus spp.*) (burrows observed only). A full list of the fauna species recorded in the study area is provided in Appendix D.

No threatened fauna species were recorded within the study area. An analysis of the likelihood of occurrence of threatened fauna species returned in the database searches is provided in Appendix F. Based on the assessment provided in Appendix F, the following three threatened fauna species were initially considered as having a moderate likelihood of occurrence in the study area:

- Gang-gang Cockatoo (*Callocephalon fimbriatum*)
- Powerful Owl
- Brush-tailed Phascogale

These species are discussed further below.

**ADVERTISED
PLAN**

Gang-gang Cockatoo

Gang-gang Cockatoos primarily occur within the temperate eucalypt forests and woodlands of mainland south-east Australia, favouring old growth forest and woodland assemblages for nesting, loafing, and roosting. The species nests in hollows of dead or living eucalypts. Gang-gang Cockatoos primarily migrate to mature, wet sclerophyll forests, over the warmer months to breed. Nesting and roosting sites are often near water where larger hollow-bearing trees can be more common (DAWE 2022).

Foraging is mainly arboreal, particularly occurring in the canopy of eucalypt species, but the species is also known to feed on seeds and berries found within gardens, from ornamental trees, shrubs, and hedges (DAWE 2022).

The closest record of Gang-gang Cockatoo is from 1 kilometre to the north of the study area, with the record being from Birdlife Australia in 2018 (DEECA 2024a). Treed habitat in the location of this recent record is connected to treed habitat in the study area via habitat corridors that exist along Macedon-Woodend Road and the V-Line rail line. Several other recent records of Gang-gang Cockatoo occur within Macedon and Gisborne and the adjoining forested areas.

Given the presence of a treed eucalyptus canopy, and the adjoining rural living setting around Macedon with various planted ornamental trees, it is considered that Gang-gang Cockatoo are likely to occasionally utilise the study area and adjoining region, particularly for foraging. While a number of hollow-bearing trees were recorded, it is considered that larger, more connected tracts of forest in the region (between Macedon and Daylesford) would provide more extensive breeding opportunities for the species, noting the species largely migrates to mature, wet sclerophyll forests to breed in the summer months (DAWE 2022).

Powerful Owl

Powerful Owls are forest dwellers, and rely on an abundance of prey, predominantly Ring-tailed Possums (*Pseudocheirus peregrinus*), to survive in an area. Nest sites are selected high up in old, large living eucalypts (SWIFFT 2024a).

The closest record of Powerful Owl is from 2.5 kilometres to the south west of the study area adjacent to Rosslynne Reservoir, from 2019 (DEECA 2024a). The next closest record is >6 kilometres to the north of the study area, from east of Mount Macedon.

The study area lacks the dense forested vegetation that would be preferred by the species for nesting/breeding. However the presence of a remnant eucalypt canopy, including several hollow-bearing trees presents opportunities for the species to occasionally utilise the study area, at least for foraging on possums which use the study area. The Macedon Ranges LGA is not noted as an important LGA in Victoria for Powerful Owl (SWIFFT 2024a).

Targeted surveys for Powerful Owl were undertaken in May and June 2025, during which no Powerful Owl were recorded. Full details of the results of the Powerful Owl targeted survey is provided in Section 4.3.1.

Brush-tailed Phascogale

The Brush-tailed Phascogale inhabits open dry foothill forest with little ground cover, typically associated with box, ironbark and stringybark eucalypts. Brush-tailed Phascogales are primarily arboreal. Hollows in dead or live trees provide preferred den sites.

The closest record of Brush-tailed Phascogale is approximately 3 kilometres to the west of the study area with the record being from 1983 (DEECA 2024a). More recent records (from 2021) occur in larger blocks of forest more broadly in the region, including a record approximately five kilometres to the southwest of the study area (between Gisborne and Bullengarook) and a record 7.5 kilometres to the east near Riddells Creek.

Given the lack of recent records and lack of habitat connectivity within five kilometres of the study area, it is considered unlikely that a significant population of Brush-tailed Phascogale would utilise the study area. However, the presence of large, hollow-bearing trees within the study area does provide potential den sites for the species. As such, the species was initially considered to have a moderate likelihood of occurrence in the study area. The Macedon/Gisborne region is not noted as a priority location for the management of the species (SWIFFT 2024b).

Targeted surveys for Brush-tailed Phascogale were undertaken in May and June 2025, though none were recorded. Full details of the results of the Brush-tailed Phascogale targeted survey is provided in Section 4.3.2.

**ADVERTISED
PLAN**

4.3 Targeted Fauna Surveys

The survey conditions and timing of nocturnal surveys are shown in Table 4-3 and Table 4-4. The results of the targeted fauna dusk watch and spotlighting surveys are shown in Table 4-5.

Table 4-3: Weather conditions of nocturnal targeted fauna survey

Date	28/05/25	29/05/25	04/06/25	05/06/2025	11/06/25
Temperature	11.3°C	7°C	6°C	10°C	8°C
Wind Speed	18 kmph	1 kmph	12 kmph	18 kmph	12 kmph
Beaufort Scale Rating	3	1	3	4	3
Wind Direction	SSW	SSE	S	NNE	N
Cloud Cover	100%	0%	95%	95%	100
Rain	Patches of light drizzle	Nil	Patches of light drizzle	Nil	Patches of light rain

Table 4-4: Timing of targeted nocturnal fauna surveys

	28/05/25	29/05/25	04/06/25	05/06/25	11/06/25
Sunset	17:15	17:15	17:12	17:12	17:08
Stag watch timing	17:15 – 18:00	17:20 – 18:05	17:25 – 18:00	17:30 – 18:00	17:16 – 17:49
Powerful Owl call playback timing	18:05 – 18:20	18:20- 18:35	18:05 – 18:20	18:28 – 18:43	19:04 – 19:19
Spotlighting transect timing	18:25 – 19:21	18:39 – 19:39	18:21 – 19:30	18:15 – 19:38	17:50 – 19:00

Table 4-5: Fauna recorded during targeted dusk watch and spotlighting surveys

Species	Scientific Name	28/05/2025	29/05/2025	04/06/2025	05/06/2025	11/06/2025
Australian Wood Duck	<i>Chenonetta jubata</i>	4	4			1
Eastern Grey Kangaroo	<i>Macropus giganteus</i>		4			
Kreff's Glider	<i>Petaurus notatus</i>			1		
Masked Lapwing	<i>Vanellus miles</i>			Heard	Heard	
Ringtail Possum	<i>Pseudocheirus peregrinus</i>	4	5		6	6
Swamp Wallaby	<i>Wallabia bicolor</i>			1		

**ADVERTISED
PLAN**

4.3.1 Powerful Owl

No Powerful Owl were heard during the call playback surveys, nor observed during the dusk watch or spotlighting surveys.

Dusk watch, call playback and spotlighting transect survey locations are shown in Figure 7 below.

4.3.2 Brush-tailed Phascogale

No Brush-tailed Phascogale were recorded during the camera trapping, dusk watch or spotlighting surveys.

Eight of the ten cameras recorded fauna activity. Twelve species were recorded, five of which (41.6%) were introduced fauna species. Native nocturnal arboreal mammals recorded were Ringtail Possum and Krefft's Glider (*Petaurus notatus*) (see Figure 3 and Figure 4).

Species recorded in the camera trapping surveys are included in Table 4-6. The locations of the 10 camera traps are shown in Figure 7 below.

Table 4-6: Results of camera trapping survey

Species	Scientific Name	Cameras where recorded	Status
Black Rat	<i>Rattus rattus</i>	1	Introduced
Common Blackbird	<i>Turdus merula</i>	1	Introduced
Eastern Grey Kangaroo	<i>Macropus giganteus</i>	3, 6,	
European Fox	<i>Vulpes vulpes</i>	1, 3, 10	Introduced
European Hare	<i>Lepus europaeus</i>	3	Introduced
European Rabbit	<i>Oryctolagus cuniculus</i>	1	Introduced
Grey Shrike-thrush	<i>Colluricincla harmonica</i>	1, 2, 3, 4, 6	
House Mouse	<i>Mus musculus</i>	2, 3, 4, 7, 9	Introduced
Krefft's Glider	<i>Petaurus notatus</i>	2	
Ringtail Possum	<i>Pseudocheirus peregrinus</i>	1	
Superb Fairy-wren	<i>Malurus cyaneus</i>	4, 6, 7	
Swamp Wallaby	<i>Wallabia bicolor</i>	3, 7	

**ADVERTISED
PLAN**



Figure 3: Krefft's Glider, Camera 2



Figure 4: Ringtail Possum, Camera 1



Figure 5: Swamp Wallaby, Camera 3



Figure 6: European Fox, Camera 10

Path: C:\Users\Ling.Hsu\Aurecon Group\SAVI Spatial - Documents\Project Work\J0302_D29225_Macedon_BEES\ProjD29225_Macedon_BEES.aprx

Author: Ling.Hsu



- Legend**
- Dusk Watch Point
 - Call Playback Point
 - Camera Traps
 - Spotlighting Transects
 - Study Area
 - Property
 - Local Government Area

ADVERTISED PLAN

Basemap: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

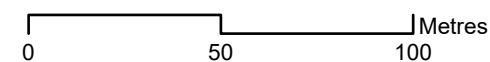
Data source: Aurecon (2025), DELWP (2025)

Date: 30/01/2026

Version: 3



A3 scale: 1:1,966



Job No: P527802
Coordinate System: GDA2020 MGA Zone 55

Macedon BESS

Figure 7: Targeted Survey Map

5 Proposed impacts and implications

5.1 Details of the proposed development

South Energy propose to develop the Macedon BESS in the southern portion of the study area as detailed in Section 2.2, and as shown below in Figure 8.

The following sections outline the potential impacts to ecological values based on the proposed design (Section 5.2) and consider the implications under relevant environmental legislation and policy (Section 5.3).

Recommendations to further assist the development of the Project are provided in Section 6.

5.2 Potential impacts to ecological values

Potential impacts have been identified below for both the construction and operational phases of the Macedon BESS project, as outlined below.

Construction Phase: Potential Impacts

- Direct removal and/or destruction of ecological values (including native vegetation, particularly large trees and hollows, and threatened species habitat) associated with construction activities.
- Assumed losses of trees, based on >10% encroachment into Notional Root Zones (NRZs), unless otherwise determined as able to be retained based on assessment by Active Green Services (2026) Arboricultural assessment (See Appendix C).
- Facilitating the spread of noxious weeds, particularly Gorse and Blackberry which occur in large infestations in the study area.
- Minor fragmentation of habitat corridor along Macedon-Woodend Road and Allison Lane through clearing for site access.

Operational Phase: Potential Impacts

- Permanent barriers to dispersal of indigenous fauna species, associated with new infrastructure or clearance of vegetation that constituted a fauna dispersal corridor.
- Ongoing absence of permanently removed vegetation causing a net reduction in available habitat, and dispersal potential within the study area.
- Increased noise and vibration reducing habitat suitability for fauna.

5.2.1 Proposed impacts to native vegetation

Impacts to native vegetation from the proposed design have been calculated based on the development footprint provided by South Energy dated 29th October 2025. Namely, all native vegetation (including large trees) within the development footprint has been considered as being removed.

Further to this, guidance outlined in DEECA's Assessors Handbook (DEECA 2025b) has been considered to capture additional assumed losses to trees adjacent to the development footprint. The Handbook states that *"unless an arborist report indicates otherwise, a tree, or trees will be deemed lost if the encroachment (of compaction and excavation) into the Notional Root Zone (NRZ) is greater than 10 per cent or is inside the SRZ (Structural Root Zone)"*. Consequently, any large trees subject to >10% encroachment into NRZs from the project footprint have also been assessed as being removed, unless otherwise having been determined as able to be retained based on arboricultural assessment by Active Green Services (2026) (See Appendix

C). In particular, Trees 4, 35, 37 and 50 (which were previously assumed lost based on proximity to works) have now been deemed as able to be retained based on the results of the arborist assessment (Active Green Services 2026). The arboricultural assessment of these four trees against the Project Footprint is summarised below as follows:

- Tree 4 (Arborist ID 444): *No (0%) intrusion into NRZ. Retain and Protect.*
- Tree 35 (Arborist ID 1): *26% intrusion into NRZ. Access track works are outside SRZ. Tree may be able to be retained with tree protection measures. Arborist supervision is required during works inside NRZ.*
- Tree 37 (Arborist ID 240): *7% intrusion into NRZ. Intrusion is minor and therefore tolerable. Retain and Protect.*
- Tree 50 (Arborist ID 655): *11% intrusion into NRZ. Intrusion is only marginally greater than minor. Retain and Protect.*

Based on the arborist assessment and commitment by South Energy to implement arborist supervision of Tree 37 during works in proximity, these four trees have been considered as being retained for the purpose of this ecological impact assessment (See Appendix C). All large trees in patches and scattered trees to be removed are identified in Appendix C and Figure 8.

Mapping around the edge of the tree canopy of all trees to be removed (as per the Assessor's Handbook, DEECA 2025b) has also been undertaken to determine the final impact area (See Figure 8).

In accordance with the Guidelines, all native vegetation removal, including scattered trees, is converted into an equivalent hectare area. Large scattered trees and small scattered trees are mapped as circular polygons with a radius of 15 m (0.0703 ha) and 10 m (0.0313 ha) respectively (with any overlap being removed).

Based on the above considerations, **the total extent of proposed native vegetation removal based on the project layout totals 2.406 ha.** This includes:

- 2.377 ha of proposed removal of native vegetation in patches (including 10 large trees in patches); and
- 0.028 ha of proposed removal of scattered trees (i.e. 1 small scattered tree, minus overlap).

Full details are provided in the Native Vegetation Removal Report (NVR), which is attached in Appendix H.

5.2.2 Potential impacts to listed matters

Potential impacts to threatened species and threatened ecological communities against the proposed project footprint have been considered below.

As noted in Sections 4.2.3 and 4.2.4, no threatened ecological communities or threatened flora species are considered likely to occur in the study area, therefore none are likely to be subject to impacts from the project.

As detailed in Section 4.2.5, three threatened fauna species were considered to have a moderate likelihood of occurrence in the study area. Potential impacts from the Project to these species are discussed below.

Gang-gang Cockatoo (EPBC Act: Endangered; FFG Act: endangered)

As noted in Section 4.2.5, the vegetation in the study area is considered to potentially support foraging habitat for Gang-gang Cockatoo. Potential foraging habitat is limited to Habitat Zone 1 which supports treed habitat in the study area. While some hollow-bearing trees are present, it is considered that larger, more connected tracts of forest in the region (between Macedon and Daylesford) would provide more extensive breeding opportunities for the species, noting the species largely migrates to mature, wet sclerophyll forests to breed in the summer months (DAWE 2022).

The current design proposes the removal of 1.39 ha from Habitat Zone 1. This represents a minor loss of potential foraging habitat, and is considered insignificant when considered in context to the extensive area of forested vegetation in the region. The removal of <2 ha of potential foraging habitat is negligible against the 30,000 km² area of occupancy documented for the species (DAWE 2022).

Assessment against the EPBC Significant Impact Criteria is documented in Table 5-1.

Table 5-1: EPBC Significant Impact Assessment for Gang-gang Cockatoo

Significant impact criteria	Assessment
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:	
Lead to a long-term decrease in the size of a population	No The project proposes the removal of 1.39 ha of potential foraging habitat. The quantum of impacts to potential foraging is considered minor/negligible when compared to the abundance of less disturbed treed habitat in the region. Furthermore, it is considered likely that the species would preference these less disturbed and more extensive areas of vegetation for foraging over vegetation in the study area. The proposed impacts are not expected to lead to a long-term decrease in the size of a population of the species.
Reduce the area of occupancy of the species	No Gang-gang Cockatoo's area of occupancy is estimated to be 30,000 km² (DAWE 2022). Gang-gang Cockatoo are a mobile species and are known to move through urbanised landscapes. The removal of <2 ha of potential foraging habitat is negligible against the 30,000 km² area of occupancy documented for the species. While the loss of 1.39 ha of foraging habitat could be considered a small reduction of Area of Occupancy, this impact is not considered significant, given the impact is not notable or of consequence.
Fragment an existing population into two or more populations	No Given the Proposed Action is in an already somewhat urbanised area. The Proposed Action will not fragment an existing population into two or more populations.
Adversely affect habitat critical to the survival of a species	No The Conservation Advice for the species identifies habitat critical to the survival of the species includes (DAWE 2022a): ■ all foraging habitat during both the breeding and non-breeding season (excluding exotic ornamental trees, shrubs, and hedges within urban and suburban areas) ■ hollow bearing trees with known or potential hollow chambers (~20 cm diameter, ~50.5 cm deep and ~7.5 m above ground level) and trees within or adjacent to known breeding areas, that are likely to become hollow bearing in future years. The project proposes the removal of 1.39 ha of potential foraging habitat, which may be considered critical habitat. The removal of 5 large trees with observed hollows may also be considered as critical habitat, though hollows were not measured and may not meet the preferred size requirements of the species. Importantly, a 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity'. The removal of 1.39 ha of foraging habitat including 5 large, hollow bearing trees is unlikely to be an important, notable or of consequential impact to Gang-gang Cockatoo.
Disrupt the breeding cycle of a population	No The loss of 5 large hollow bearing trees is unlikely to disrupt the breeding cycle of a population. While some hollow-bearing trees are present, it is considered that larger, more connected tracts of forest in the region (between Macedon and Daylesford) would provide more extensive breeding opportunities for the

Significant impact criteria	Assessment
	species, noting the species largely migrates to mature, wet sclerophyll forests to breed in the summer months (DAWE 2022).
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No The Proposed Action is not expected to decrease the availability or quality of habitat to the extent that the species is likely to decline, given: ■ there is ample foraging and breeding habitat in the broader Macedon region ■ the highest quality habitat in the study area (to the north west) is being retained
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	No Invasive species identified as significant nest-hollow competitors include Feral European Honeybees (<i>Apis mellifera</i>), Ringtail and Brushtail Possums (<i>Trichosurus vulpecula</i>), European Starling (<i>Sturnus vulgaris</i>), Noisy miner (<i>Manorina melanocephala</i>), and Common myna (<i>Acridotheres tristis</i>) (DAWE 2022). These species are already likely to be present in the study area and the Project is unlikely to further exacerbate the impact to the species.
Introduce disease that may cause the species to decline	No Construction hygiene best practice will be followed to ensure no diseases or other pathogens will be introduced by the project works.
Interfere with the recovery of the species	No The removal of 1.39 ha of potential foraging habitat for Gang Gang Cockatoo is unlikely to impact the species to the extent that it would interfere with the recovery of the species. There is no adopted or made Recovery Plan for this species at the time of authoring this report.
Summary of Significant Impact Assessment:	The Proposed Action is <u>unlikely</u> to result in a significant impact to Gang-gang Cockatoo (<i>Callocephalon fimbriatum</i>).

Based on consideration against the EPBC Significant Impact Criteria, the project is considered unlikely to result in a significant impact on Gang-gang Cockatoo.

ADVERTISED PLAN

Powerful Owl (FFG Act: vulnerable)

As discussed in Section 4.2.5, the study area lacks the dense forested vegetation that would be preferred by the species for nesting/breeding. However, the presence of a remnant eucalypt canopy, including hollow-bearing trees presents opportunities for the species to occasionally utilise the study area for foraging/hunting on possums or other arboreal mammals which are likely to be using the hollows in the study area.

Given the species' preference for arboreal prey, particularly possums, potential foraging habitat is limited to Habitat Zone 1 which supports treed habitat in the study area. The current design proposes the removal of 1.39 ha from Habitat Zone 1.

Targeted Powerful Owl survey was carried out late autumn and early winter 2025 to determine whether the species make substantial use of the habitat in the study area, and to better understand the potential impacts to the species from the project.

No Powerful Owl were recorded during the targeted survey. As the surveys were undertaken in accordance with the survey standards for the species, it is reasonable to conclude that the species does not make substantial use of the habitat within the study area. It is probable that the species would make occasional use for hunting, however the surveys have demonstrated that there is unlikely to be resident Powerful Owl in

the vicinity of the study area at the time of survey. It is therefore unlikely that the project would have substantial impacts on Powerful Owl.

Brush-tailed Phascogale (FFG Act: vulnerable)

As discussed in Section 4.2.5, the presence of large, hollow-bearing trees within the study area is considered to provide potential den sites for the species. Potential nesting habitat is limited to Habitat Zone 1 which supports treed habitat in the study area. The current design proposes the removal of 1.39 ha from Habitat Zone 1, including five (5) large, hollow bearing trees.

Targeted survey for Brush-tailed Phascogale was carried out in late autumn and early winter 2025, to better understand the potential impacts to this species from the Project.

No Brush-tailed Phascogale were recorded during the targeted surveys. Based on the survey results it is unlikely that resident Brush-tailed Phascogale are present in the study area. It is therefore unlikely that the project would have substantial impacts on Brush-tailed Phascogale.

**ADVERTISED
PLAN**

Path: C:\Users\Dominic.Borrelli\Aurecon Group\SAVI Spatial - Documents\Project Work\U392_Macedon_BEES\ProjD29225_Macedon_BEES.aprx

Author: Dominic.Borrelli



Legend

- ✗ Impacted Native Tree
- Impacted Hollowbearing Tree
- Large tree in patch
- Scattered tree - Small
- TPZ
- Study Area
- Property
- Local Government Area
- Development Footprint
- Impacted Native Vegetation Patch
- Native Vegetation Patch**
- Grassy Forest (EVC 128)

ADVERTISED PLAN

Basemap: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Data source: Aurecon (2025), DELWP (2025)

Date: 25/03/2026

Version: 8



A3 scale: 1:2,000

0 50 100 Metres

Job No: P527802

Coordinate System: GDA2020 MGA Zone 55

ADVERTISED PLAN

5.3 Potential implications under relevant environmental legislation and policy

5.3.1 *Environment Protection and Biodiversity Conservation Act 1999*

The EPBC Act is Commonwealth legislation that provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, termed Matters of National Environmental Significance (MNES). Under the EPBC Act, an action that has, will have, or is likely to have, a significant impact on a MNES must be referred to the Commonwealth Minister for the Environment. The Minister will then determine whether the proposed action requires formal assessment and approval under the EPBC Act.

The results from the database search of the EPBC Act PMST identified multiple MNES potentially occurring within a 5 km radius search area. The MNES relevant to the project area are summarised in Table 5-2, with threatened and migratory species tabulated in Appendix E and F. The likelihood of occurrence of each relevant MNES are summarised in the following sub sections.

Table 5-2 Summary of Matters of National Environmental Significance (MNES) relevant to the search area

Matters of National Environmental Significance	MNES relevant to the project search area
World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance	7
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	5
Listed Threatened Species	57
Listed Migratory Species	9

Wetlands of international importance (Ramsar)

Seven Ramsar wetlands are listed on the PMST prepared for 10 km the search area. Six of the Ramsar wetlands listed are over 100km away from the study area, and the seventh (Port Phillip and Western Port Ramsar) is over 50km away from the study area. Given the extensive distance of the study area from these wetlands, the project is not considered to result in impacts on any wetlands of international importance.

Listed threatened species

Based on the assessments in Appendix E and F, and the detail provided in Sections 4.2.4 and 4.2.5, it has been determined that three threatened fauna species have a moderate likelihood of occurrence in the study area. Of these, one, the Gang-gang Cockatoo is listed under the EPBC Act.

An assessment against the EPBC Significant Impact Criteria has been undertaken for this species in Section 5.2.2. As per this assessment, it has been determined that the project is unlikely to result in a significant impact on Gang-gang Cockatoo.

Listed threatened ecological communities

Five EPBC Act listed threatened ecological communities were listed in the PMST relevant to the search area (See Appendix G). No native vegetation in the study area was consistent with any EPBC Act listed ecological communities. As such, no EPBC Act listed threatened ecological communities are at risk of a significant impact from the proposed action.

Migratory and marine species

Based on the assessment in Appendix F, no EPBC Act migratory listed fauna species are considered to have a high or moderate likelihood of occurrence in the study area. As such, no EPBC Act migratory listed fauna species are at risk of a significant impact from the proposed action.

Conclusion under EPBC Act

Based on the considerations above, it is concluded that the Project is unlikely to result in a significant impact on any MNES. Therefore, the project is not considered to require the preparation of a referral under the EPBC Act.

5.3.2 *Environment Effects Act 1978*

The *Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978* (DTP 2023) outlines the triggers for referral of a project to the Victorian Minister for Planning who will determine if an Environmental Effects Statement (EES) is required. Criteria relevant to flora and fauna are broadly summarised to include:

- Extensive removal of native vegetation (>10 hectares);
- Specified significant impacts to threatened species listed in Victoria; and
- Long term changes to Ramsar wetlands.

Based on the results of the flora and fauna assessment, the project is not considered to trigger a referral under the *Environment Effects Act 1978* (EE Act) based on any criteria specifically relevant to flora, fauna or biodiversity. Other criteria beyond those relating to flora and fauna that trigger a referral may apply but have not been considered as part of this assessment.

5.3.3 *Flora and Fauna Guarantee Act 1988*

The FFG Act is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes. Under the FFG Act a permit is required from DEECA to take (kill, injure, disturb or collect), trade, keep, move or process threatened or protected flora species from public land.

No FFG Act listed threatened flora species were recorded in the study area, and no FFG Act protected flora species were recorded within public land (i.e along the adjoining road reserves of Macedon-Woodend Road or Allison Road) in the study area. As such, a Protected Flora Permit is unlikely to be required for the Project.

Due to the presence of large hollow bearing trees, the study area was initially considered as having a moderate likelihood of occurrence for Powerful Owl and Brush-tailed Phascogale (both FFG Act listed threatened fauna species). However targeted surveys for both species carried out in accordance with relevant survey standards and survey guidelines (DSEWPaC, 2011; DSE, 2011), did not detect either species in the study area. This indicates that neither species is currently making substantial use of the habitat present, though Powerful Owl may use it for opportunistic hunting. It is unlikely that the project will have substantial impacts on either species.

**ADVERTISED
PLAN**

5.3.4 Planning and Environment Act 1987

The *Planning and Environment Act 1987* controls the planning and development of land in Victoria and provides for the development of planning schemes for all municipalities under the Planning Scheme and Planning Policy Framework. A permit is required to remove, destroy, or lop native vegetation unless an exemption applies.

ADVERTISED PLAN

Overlays

Vegetation Protection Overlay – Schedule 9 (VPO9)

The portion of the study area in private land is subject to Vegetation Protection Overlay – Schedule 9 (VPO9). This overlay aims to protect and enhance the existing forest mosaic around Woodend, Macedon and the Cobaw Ranges, and specifically to protect all remnant native vegetation for its role in biodiversity.

A permit is required to remove native vegetation in the study area under VPO9. As per the Macedon Ranges Planning Scheme, any application to remove native vegetation subject to VPO9 requires preparation of a report which:

- Provides full details of the vegetation to be removed, lopped or destroyed, including species, age and number of plants to be removed or lopped.
- Provides an assessment of the significance of the vegetation at a local level.
- Demonstrates conclusively that the works requiring the removal/lopping/destruction of the native vegetation are essential and consistent with Council's vision for the area.
- Provides details of the revegetation works planned to mitigate the loss of the vegetation proposed to be removed, lopped or destroyed.

The information on native vegetation presented in this report has been collected to meet the application requirements of the Guidelines. Detailed tree data for all large trees in patches and scattered trees recorded in the study area is provided in Appendix C. It is noted that impacts to vegetation under VPO9 may also require additional revegetation works to the satisfaction of Council.

Vegetation Protection Overlay – Schedule 2 (VPO2)

The portion of the study area in public land (along adjoining roads) is subject to Vegetation Protection Overlay – Schedule 2 (VPO2). This overlay aims to protect roadside vegetation in the municipality.

A permit is required to remove, destroy or lop any vegetation in an area subject to this overlay. As per the Macedon Ranges Planning Scheme, any application to remove native vegetation subject to VPO2 must meet the following application requirements:

- Indicate the total extent of native vegetation on the subject land and the extent of proposed clearing, destruction or lopping, the location of any river, stream, watercourse, wetland or channel on the subject land and, if relevant, the location of areas with a slope exceeding 20 per cent.
- Specify the purpose of the proposed clearing.
- Demonstrate that the need for removal, destruction or lopping of remnant native vegetation has been reduced to the maximum extent that is reasonable and practicable.
- Specify proposals for revegetation following disturbance or restoration of an alternate site, including proposed species and ground stabilisation.
- If the area of proposed clearing exceeds 0.4 hectares, include a report on the vegetation and habitat significance of the area subject to the permit, to the satisfaction of the responsible authority.

The information on native vegetation presented in this report is considered to address most of the application requirements of VPO2. It is noted that impacts to vegetation under VPO2 may also require additional revegetation works to the satisfaction of Council.

Environmental Significance Overlay - Schedule 5 (ESO5)

The far north west corner of the study area is subject to Environmental Significance Overlay - Schedule 5 (ESO5). This overlay aims to protect the water catchment.

Based on the preliminary design, no works proposed for the Project intersect with any area of ESO5. A permit under ESO5 is therefore not required.

ADVERTISED PLAN

State Planning Policy

Clause 12.01-2S (Native vegetation management) and Clause 52.17 (Native Vegetation) of the State Planning Policy Framework requires that the removal of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity, and that this is achieved by applying the three-step approach outlined in Victoria's 'Guidelines for the removal, destruction or lopping of native vegetation' (the Guidelines):

1. *Avoid the removal, destruction or lopping of native vegetation.*
2. *Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.*
3. *Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.*

A planning permit is required under Clause 52.17 to remove, destroy or lop native vegetation, including dead native vegetation. Decision guidelines must be considered by the Referral and Responsible Authorities in deciding to grant or otherwise the planning permit. Exemptions to the requirement for a permit to remove native vegetation are specified in Clause 52.17 and include themes such as regrowth, dead vegetation and planted vegetation.

The Guidelines are incorporated into the Victorian Planning Provisions to regulate the clearance of native vegetation across the state. The Guidelines use a risk-based approach to determine the significance of native vegetation based on the extent, quality and location of vegetation proposed to be removed. Further details on the application of the guidelines are provided in Appendix A.

Under Clause 66.02 a permit application to remove, destroy or lop native vegetation is required to be referred to DEECA as a recommending referral authority if any of the following apply:

- The application triggers the Detailed Assessment Pathway;
- A property vegetation plan applies to the site; or
- The native vegetation is on Crown land which is occupied or managed by the Responsible Authority.

Impacts to native vegetation and implications under the Guidelines

As detailed in Section 5.2.1 and shown in Figure 8, the project is considered to result in the following impacts to native vegetation:

- Total extent loss of 2.406 hectares of native vegetation (as per Appendix H). This includes the removal of 2.377 ha of Grassy Forest (EVC 128) (including 10 large trees in patches) and one small scattered tree.

Such removal of native vegetation in the Project area would trigger a permit under Clause 52.17 of the Macedon Ranges Planning Scheme. This report has been prepared to respond to the application requirements of the Guidelines.

It is understood that no native vegetation has been approved for removal on the property within the last five years. Representative photos of the native vegetation to be removed are provided in Photos 1 – 5.

Assessment pathway

The assessment pathway is determined by the location category and the extent of native vegetation, detailed in Appendix H and summarised as followed:

- Location Category: 1

- Extent loss of native vegetation: A total of 2.406 hectares of native vegetation

Based on these details, the Guidelines stipulate that the proposal is to be assessed under the Detailed assessment pathway. As such, the proposed action would be referred to DEECA.

Avoid and minimise statement

In accordance with the requirements under the Guidelines, any application to remove native vegetation requires the preparation of an 'avoid and minimise statement'. This statement is required to clearly identify the actions undertaken and efforts made throughout the planning process to avoid the removal of, and minimise impacts on, the biodiversity and other values of native vegetation.

At a strategic level, the Macedon BESS project site has been located to utilise the existing connection point at the adjoining Gisborne Substation. The proximity of the Gisborne Substation to the proposed Macedon BESS site means no potential impacts are required from extensive transmission lines that would be needed if the BESS site was to be separated from the connection point.

At a site planning level, initial efforts to minimise impacts to native vegetation are evident based on the proposed location of project infrastructure, which has been located to avoid/minimise impacts to the highest quality native vegetation values in the study area. Particularly, the project layout has been located to utilise the only area of non-native vegetation (ie areas of weed infestation) in the study area, so to reduce impacts on native vegetation. The project layout also has been located to minimise extensive impacts to treed vegetation, being located in the area of Habitat Zone 2 which supports a largely treeless remnant of Grassy Forest (EVC 128). Furthermore, the number of large trees and large hollow-bearing trees proposed to be removed has been reduced following the consideration of various access options from Macedon – Woodend Road. The proponent has worked closely with Aurecon's Ecology team to design access routes into the Project area that minimise impacts to native vegetation and large trees as much as possible, while still meeting bushfire assessment requirements from Country Fire Authority (CFA). Bushfire assessments require that two access points are provided to the BESS, and are located at opposite ends of the site to allow alternative access in the case of an emergency.

Further refinement, and reduction in impacts to large trees has been made possible, by the recent engagement and preparation of a detailed arboricultural assessment. The arboricultural assessment (Active Green Services 2026), prepared in late February 2026, has deemed that four large trees previously considered lost (Trees 4, 35, 37 and 50) are able to be retained (based on minor encroachment and/or the provision of arborist supervision). This is detailed further in Section 5.2.1 and Appendix C.

Native vegetation offsets

Native vegetation offsets would be required to compensate for any approved removal of native vegetation. A Native Vegetation Removal Report (NVRR) has been prepared to detail the relevant offset requirements and is provided in Appendix H. A summary of the native vegetation removal details and offset requirements as per the NVRR is provided in Table 5-3 below.

Table 5-3: Summary of information from the Native Vegetation Removal Report

Removal and offset details	Information requirement	Project information from NVRR
Removal details	Assessment pathway	Detailed
	Total extent of native vegetation removal	2.406 ha
	Location Category	1

**ADVERTISED
PLAN**

Offset details	Offset requirements	1.377 general habitat units, with the following requirements: ■ Offset must be located in Melbourne Water CMA or Macedon Ranges Shire LGA ■ Offset must have minimum strategic biodiversity value (SBV) of 0.6214 ■ Offset must include the protection of 10 Large trees
----------------	---------------------	---

The required offsets must be sourced and secured prior to any removal of native vegetation.

Offset statement

An online search of the Native Vegetation Credit Register (NVCR) has shown that the required offset is currently available for purchase (DEECA 2026). Evidence that the required offset is available is provided in Appendix I. The required offset would need to be secured prior to commencement of the proposed action.

5.3.5 *Wildlife Act 1975 and Wildlife Regulations 2002*

The main legislation for protecting and managing fauna in Victoria is the *Wildlife Act 1975*. This covers indigenous vertebrate species (except declared pest species), invertebrate species listed under the FFG Act and some introduced game species. A Management Authorisation permit would be required under the Act if salvage and relocation of fauna are to be undertaken as part of any removal of habitat associated with the works. This is likely to be required for any approved removal of trees required for the project.

5.3.6 *Catchment and Land Protection Act 1994*

The *Catchment and Land Protection Act 1994* (CaLP Act) identifies and classifies certain species as noxious weeds or pest animals and provides a system of controls on noxious species.

The CaLP Act also provides a legislative framework for the management of private and public land and sets out the responsibilities of land managers, stating that they must take all reasonable steps to:

- Avoid causing or contributing to land degradation which causes or may cause damage to land of another land owner;
- Protect water resources;
- Conserve soil;
- Eradicate regionally prohibited weeds;
- Prevent the growth and spread of regionally controlled weeds; and
- Prevent the spread of, and as far as possible eradicate, established pest animals.

The study area contains the following noxious weeds listed as regionally controlled within the Port Phillip and Westernport Catchment Management Authority region:

- Blackberry
- Gorse
- Flax-leaf Broom

**ADVERTISED
PLAN**

Appropriate weed control and hygiene measures should be outlined in the Construction and Operational Environmental Management Plans for the Project. Specific attention should be given to ensuring appropriate measures are in place during construction to prevent the spread of noxious weeds, particularly Gorse which occurs as an extensive infestation within the study area.

6 Summary and recommendations

6.1 Summary

Table 6-1 details the proposed impacts to native vegetation and listed ecological values within the Study Area from the Macedon BESS Project. A summary of implications is provided in Table 6-2.

Table 6-1: Summary of proposed impacts

Ecological Value	Proposed impact
Native Vegetation	Removal of a total extent of 2.406 ha of native vegetation including: 2.377 ha of removal of native vegetation in patches (including 10 large trees in patches); and 0.028 ha of removal of scattered trees (i.e. 1 small scattered tree).
Threatened Ecological Communities	None in study area. No impacts.
Threatened flora	None likely to occur in study area. Impacts unlikely.
Threatened Fauna	- Removal of 1.39 ha of foraging habitat for Gang-gang Cockatoo, including 5 hollow bearing trees (considered unlikely to result in a significant impact) - Potential impacts to foraging/hunting habitat for Powerful Owl - Potential impacts to nesting habitat for Brush-tailed Phascogale

Table 6-2: Summary of legislative implications

Legislation/Policy	Implications
<i>Planning and Environment Act 1987</i>	Permit to remove native vegetation is required under Clause 52.17, VPO9 and VPO2 of the Macedon Ranges Planning Scheme
Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2025a)	If approved, the proposed removal of native vegetation would result in an offset requirement of 1.377 general habitat units. The offset must be located in Melbourne Water CMA or Macedon Ranges Shire LGA, have minimum strategic biodiversity value (SBV) of 0.6214, and include 10 large trees.
<i>Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	Potential impacts were identified to the following MNES: Gang-gang Cockatoo Based on an assessment undertaken against the EPBC Significant impact criteria, it has been determined that the project is unlikely to result in a significant impact on Gang-gang Cockatoo. As such, the project is not considered to require the preparation of a referral under the EPBC Act.
<i>Flora and Fauna Guarantee Act 1988 (FFG Act)</i>	- No FFG Act listed threatened species were recorded in the study area, and no FFG Act protected flora species were recorded within public land. As such, a Protected Flora Permit is unlikely to be required for the Project. - Due to the presence of large hollow bearing trees, the study area was initially considered as having a moderate likelihood of occurrence for Powerful Owl and Brush-tailed Phascogale. However given targeted surveys did not detect either species in the study area, it is considered that neither species is currently making substantial use of the habitat present, and it is unlikely that the project will have substantial impacts on either species.

Legislation/Policy	Implications
<i>Environment Effects Act 1978 (EE Act)</i>	The project is not considered to trigger a referral under the EE Act based on any criteria specifically relevant to flora, fauna or biodiversity

6.2 Recommendations

The following recommendations are provided to further assist the planning and development of the Project:

- Engage a suitably qualified wildlife handler to inspect all trees approved for removal to determine presence and/or suitability for nesting fauna, immediately prior to removal. This should include particular consideration for any threatened fauna present.
- At the time of approved tree removal, a suitably qualified wildlife handler should be onsite to undertake salvage and translocation of any nesting fauna. This is likely to be a condition of any permit for tree removal.
- Implement appropriate Tree Protection Zones around trees to be retained in the Project area to ensure these values are not impacted during construction.
- Implement appropriate weed control and hygiene measures to ensure high threat weeds are not spread. This is particularly relevant given the extensive infestation of Gorse through the centre of the site.
- Consider improving/enhancing the quality of vegetation and habitat in the remainder of the study area to align with in the requirements of VPO9 and VPO2. This may include weed control works to control/remove the Gorse infestation in the study area, and revegetation of this area thereafter as per the local EVC.

**ADVERTISED
PLAN**

7 References

- Active Green Services 2026, Arboricultural Impact Assessment: Macedon BESS Development Pty Ltd, Ref 527802, dated 27th February 2026.
- Birdlife Australia 2024, Bird species profiles, viewed 25th November 2024, <<http://www.birdlife.org.au/>>
- DAWE 2022, Conservation Advice for *Callocephalon fimbriatum* (Gang-gang Cockatoo), Department of Agriculture, Water and the Environment, <https://www.environment.gov.au/biodiversity/threatened/species/pubs/768-conservation-advice-02032022.pdf>
- DCCEEW 2024a, Department of Climate Change, Energy, the Environment and Water (DCCEEW), EPBC Act Protected Matters Report. Department of Climate Change, Energy, the Environment and Water (DCCEEW), Canberra, ACT, generated 18th October 2024, <<http://www.environment.gov.au/webgis-framework/apps/pmst/pmst.jsf>>
- DCCEEW 2024b, Species Profile and Threats Database, Department of Climate Change, Energy, the Environment and Water (DCCEEW), viewed 25th November 2024, <<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>>
- DEECA 2024a, Victorian Biodiversity Atlas, Government of Victoria, Department of Energy, Environment and Climate Action, Victoria, viewed 25th November 2024, <<https://www.environment.vic.gov.au/biodiversity/victorian-biodiversity-atlas>>
- DEECA 2024b, Native Vegetation Information Management System (NVIM), Government of Victoria, Department of Energy, Environment and Climate Action, Victoria, viewed 25th November 2024, <<https://www.environment.vic.gov.au/native-vegetation/native-vegetation-information-management>>
- DEECA 2024c, NatureKit, Government of Victoria, Department of Energy, Environment and Climate Action, Victoria, viewed 25th November 2024, <<http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>>
- DEECA 2025a, *Guidelines for the removal, destruction or lopping of native vegetation*, Government of Victoria, Department of Energy, Environment and Climate Action, Melbourne.
- DEECA 2025b, *Assessor's handbook, Applications to remove, destroy or lop native vegetation*, Government of Victoria, Department of Energy, Environment and Climate Action, Melbourne.
- DEECA 2026, Online Search of the Native Vegetation Credit Register, Department of Energy, Environment and Climate Action, East Melbourne, Victoria, generated 25th March 2026, <<https://nvcr.delwp.vic.gov.au/>>
- DoE 2013, Matters of National Environmental Significance - Significant Impact Guidelines 1.1. Department of the Environment (now Department of Climate Change, Energy, the Environment and Water (DCCEEW), Canberra.
- DSE 2004, Native Vegetation: sustaining a living landscape, Vegetation Quality Assessment Manual – guidelines for applying the Habitat Hectare scoring method (Version 1.3), Department of Sustainability and Environment, now Department of Energy, Environment and Climate Action, East Melbourne, Victoria

DSE 2011, Approved Survey Standards: Powerful Owl, Ninox Strenua, The Department of Sustainability and Environment, Melbourne

DESWPaC 2011, Survey guidelines for Australia's threatened mammals, Commonwealth Department of Sustainability, Environment, Water, Population and Communities, Canberra.

DTP 2023, Ministerial Guidelines for Assessment of Environmental Effects under the Environmental Effects Act 1978, Eighth edition 2023, Department of Transport and Planning, East Melbourne, Victoria.

DTP 2024, VicPlan. Government of Victoria, Department of Transport and Planning, Melbourne, Victoria, viewed 25th November 2024, <<https://mapshare.vic.gov.au/vicplan/>>

SWIFFT 2024b, Powerful Owl Threatened species profile, State Wide Integrated Flora and Fauna Teams (SWIFFT), available from https://www.swiff.net.au/cb_pages/sp_powerful_owl.php

SWIFFT 2024b, Brush-tailed Phascogale Threatened species profile, State Wide Integrated Flora and Fauna Teams (SWIFFT), available from https://www.swiff.net.au/cb_pages/sp_brush-tailed_phascogale.php#eco

TSSC 2006, Commonwealth Listing Advice on White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, Threatened Species Scientific Committee (TSSC). Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/box-gum.html>. In effect under the EPBC Act from 18-May-2006.

TSSC 2008, Commonwealth Listing Advice on Natural Temperate Grassland of the Victorian Volcanic Plain. Threatened Species Scientific Committee (TSSC), Department of the Environment, Water, Heritage and the Arts. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/42-listing-advice.pdf>. In effect under the EPBC Act from 21-Jun-2008.

TSSC 2009. Commonwealth Listing Advice on Grassy Eucalypt Woodland of the Victorian Volcanic Plain. Threatened Species Scientific Committee (TSSC), Department of the Environment, Water, Heritage and the Arts. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/46-listing-advice.pdf>. In effect under the EPBC Act from 25-Jun-2009.

TSSC 2010, Commonwealth Listing Advice on Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. Threatened Species Scientific Committee (TSSC), Department of the Environment, Water, Heritage and the Arts. Canberra, ACT: Department of the Environment, Water, Heritage and the Arts. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/86-listing-advice.pdf>. In effect under the EPBC Act from 01-Apr-2010.

TSSC 2012, Commonwealth Listing Advice on Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains. Threatened Species Scientific Committee (TSSC), Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/97-listing-advice.pdf>. In effect under the EPBC Act from 27-Mar-2012.

VICFLORA 2024, Flora of Victoria, Royal Botanic Gardens Victoria, viewed 21st November 2024, <<https://vicflora.rbg.vic.gov.au>> 2024

Appendix A: Permitted clearing assessment (the Guidelines)

This section describes the Victorian permitted clearing guidelines and methods of applying those guidelines.

Risk-based Pathway

In Victoria, a permit is required to remove, destroy or lop native vegetation under Clause 52.17 of the Victorian Planning Provisions (VPP) empowered by the Victorian *Planning and Environment Act 1987*. These provisions are outlined in various guidelines discussed below.

The *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) outline how impacts on Victoria's biodiversity are assessed and the appropriate risk based pathway when an application to remove native vegetation is lodged (DELWP 2025a). The Guidelines are an incorporated document in all Victorian Planning Schemes and are applied alongside other requirements of the planning scheme when an application for a permit to remove native vegetation is considered by the responsible authority.

The risk based pathway approach categorises an application into one of three pathways. Taken from DELWP 2025a:

- Basic – limited impacts on biodiversity.
- Intermediate – could impact on large trees, endangered EVCs, and sensitive wetlands and coastal areas.
- Detailed – could impact on large trees, endangered EVCs, sensitive wetlands and coastal areas, and could significantly impact on habitat for rare or threatened species.

The location of the vegetation removal is then assessed in terms of significance for biodiversity. Three location categories have been assigned by DELWP (2025a) and in terms of importance include:

- Location 3 – includes locations where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for a rare or threatened species.
- Location 2 – includes locations that are mapped as endangered EVCs and/or sensitive wetlands and coastal areas (section 3.2.1) and are not included in Location 3.
- Location 1 – includes all remaining locations in Victoria.

Once the risk pathway and the location significance are known the application assessment pathway can be determined as per the table below.

Extent of native vegetation to be removed Content	Location 1	Location 2	Location 3
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

The vegetation removal pathway then determines the level of assessment and information required in an application to remove, lop or destroy native vegetation.

**ADVERTISED
PLAN**

Appendix B: Vegetation quality assessment results

Habitat Zone		HZ1	HZ2
Ecological Vegetation Class (EVC)		Grassy Forest (EVC 128)	Grassy Forest (EVC 128)
Size (ha)		6.138	1.03
Site Condition Score	Large trees	4	0
	Tree canopy cover	5	0
	Understorey	20	15
	Lack of weeds	4	4
	Recruitment	6	6
	Organic litter	3	5
	Logs	3	0
	EVC standardiser	1	1
	Standardised score	45	30
Landscape Context Score	Patch size	4	1
	Neighbourhood	1	1
	Distance to core	1	1
	Total Landscape Context Score	6	3
Habitat score		51	33
Habitat score / 100		0.51	0.33

**ADVERTISED
PLAN**

ADVERTISED PLAN

Appendix C: Native tree data (Large trees in patches and Scattered Trees)

Tree No.	Type	Common name	Scientific name	Size	DBH (cm)	NRZ Radius (m)	Comment	Arborist Tree No.*	Impact assessment
1	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	81	9.72	Trunk split	401	Tree is within footprint of works. Tree to be Removed
2	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	105	12.6	Poor health, many hollows	298	Tree is within footprint of works. Tree to be Removed
3	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	102	12.24	Poor health, hollows	323	Tree is within footprint of works. Tree to be Removed
4	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	81	9.72	Almost dead	444	No intrusion into NRZ (Active Green Services 2026). Tree to be retained
5	Large tree in patch	Eucalyptus sp.	<i>Eucalyptus sp.</i>	Large	89	10.68	Dead		No impacts. Retained
6	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	83	9.96			No impacts. Retained
7	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	98	11.76		187	Tree is within footprint of works. Tree to be Removed
8	Large tree in patch	Narrow-leaf Peppermint	<i>Eucalyptus radiata</i>	Large	103	12.36		184	Tree is within footprint of works. Tree to be Removed
9	Large tree in patch	Eucalyptus sp.	<i>Eucalyptus sp.</i>	Large	105	12.6	Dead, hollows	128	Tree is within footprint of works. Tree to be Removed
10	Large tree in patch	Narrow-leaf Peppermint	<i>Eucalyptus radiata</i>	Large	106	12.72	Small hollow	82	Tree is within footprint of works. Tree to be Removed
11	Scattered Tree	Manna Gum	<i>Eucalyptus viminalis</i>	Small	12	2			Tree is within footprint of works. Tree to be Removed
12	Large tree in patch	Narrow-leaf Peppermint	<i>Eucalyptus radiata</i>	Large	133	15			No impacts. Retained
13	Large tree in patch	Eucalyptus sp.	<i>Eucalyptus sp.</i>	Large	120	14.4	Dead, small hollow		No impacts. Retained
14	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	118	14.16			No impacts. Retained
15	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	140	15	Hollows		No impacts. Retained
16	Large tree in patch	Narrow-leaf Peppermint	<i>Eucalyptus radiata</i>	Large	100	12	Hollows		No impacts. Retained
17	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	104	12.48	Dead, large hollows		No impacts. Retained
18	Large tree in patch	Eucalyptus sp.	<i>Eucalyptus sp.</i>	Large	118	14.16	Dead, hollows		No impacts. Retained

ADVERTISED PLAN

Tree No.	Type	Common name	Scientific name	Size	DBH (cm)	NRZ Radius (m)	Comment	Arborist Tree No.*	Impact assessment
19	Large tree in patch	Eucalyptus sp.	<i>Eucalyptus sp.</i>	Large	83	9.96	Dead, hollows		No impacts. Retained
20	Large tree in patch	Eucalyptus sp.	<i>Eucalyptus sp.</i>	Large	91	10.92	Dead, large hollows		No impacts. Retained
21	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	91	10.92	Road Reserve		No impacts. Retained
22	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	74	8.88	Road		No impacts. Retained
23	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	101	12.12	Road		No impacts. Retained
24	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	73	8.76	Road reserve		No impacts. Retained
25	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	92	11.04	Road Reserve		No impacts. Retained
26	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	73	8.76	Road Reserve, hollow		No impacts. Retained
27	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	101	12.12	Road Reserve		No impacts. Retained
28	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	102	12.24	Road Reserve, twin trunk		No impacts. Retained
29	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	134	15	Road Reserve		No impacts. Retained
30	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	167	15	Road Reserve, many hollows		No impacts. Retained
31	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	135	15	Road Reserve		No impacts. Retained
32	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	88	10.56	Road Reserve	1190	Intrusion is minor and therefore tolerable (Active Green Services 2026). Retained
33	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	173	15	Road Reserve, hollows	1176	Tree is within footprint of works. Tree to be Removed
34	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	89	10.68	Road Reserve	1169	Tree is within footprint of works. Tree to be Removed
35	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	73	8.76		1	Access track works are outside SRZ. Tree may be able to be retained with tree protection measures. Arborist supervision is required during works inside NRZ (Active Green Services 2026). Tree considered as retained based on commitment to provide arborist supervision.

ADVERTISED PLAN

Tree No.	Type	Common name	Scientific name	Size	DBH (cm)	NRZ Radius (m)	Comment	Arborist Tree No.*	Impact assessment
36	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	86	10.32		5	Intrusion is major and therefore intolerable (Active Green Services 2026) Tree considered as Removed
37	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	97	11.64	Active hollows	240	Intrusion is minor and therefore tolerable. Retain and Protect (Active Green Services 2026) Tree considered as retained based on arborist assessment
38	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	97	11.64			No impacts. Retained
39	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	72	8.64			No impacts. Retained
40	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	71	8.52			No impacts. Retained
41	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	76	9.12	Hollows		No impacts. Retained
42	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	96	11.52	Hollows		No impacts. Retained
43	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	121	14.52			No impacts. Retained
44	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	78	9.36			No impacts. Retained
45	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	79	9.48	Dead		No impacts. Retained
46	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	77	9.24	Hollows		No impacts. Retained
47	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	74	8.88	Dead, hollows		No impacts. Retained
48	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	111	13.32			No impacts. Retained
49	Large tree in patch	Narrow-leaf Peppermint	<i>Eucalyptus radiata</i>	Large	70	8.4			No impacts. Retained
50	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	105	12.6	Hollows	655	Intrusion is only marginally greater than minor. Retain and Protect (Active Green Services 2026) Tree considered as retained based on arborist assessment
51	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	81	9.72			No impacts. Retained
52	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	98	11.76			No impacts. Retained
53	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	99	11.88	Road Reserve		No impacts. Retained

ADVERTISED PLAN

Tree No.	Type	Common name	Scientific name	Size	DBH (cm)	NRZ Radius (m)	Comment	Arborist Tree No.*	Impact assessment
54	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	73	8.76	Road Reserve		No impacts. Retained
55	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	70	8.4	Road Reserve		No impacts. Retained
56	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	90	10.8	Road Reserve		No impacts. Retained
57	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	111	13.32	Road Reserve		No impacts. Retained
58	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	126	15	Road Reserve		No impacts. Retained
59	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	157	15	Road Reserve		No impacts. Retained
60	Large tree in patch	Broad-leaf Peppermint	<i>Eucalyptus dives</i>	Large	99	11.88	Road Reserve		No impacts. Retained
61	Large tree in patch	Stag	NA	Large	102	12.24	Road Reserve		No impacts. Retained
62	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	146	15	Road Reserve		No impacts. Retained
63	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	90	10.8	Road Reserve		No impacts. Retained
64	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	78	9.36	Road Reserve		No impacts. Retained
65	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	75	9	Road Reserve		No impacts. Retained
66	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	97	11.64	Road Reserve		No impacts. Retained
67	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	83	9.96	Road Reserve		No impacts. Retained
68	Large tree in patch	Messmate Stringybark	<i>Eucalyptus obliqua</i>	Large	74	8.88	Road Reserve		No impacts. Retained
69	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	91	10.92	Road Reserve		No impacts. Retained
70	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	88	10.56	Road Reserve		No impacts. Retained
71	Large tree in patch	Manna Gum	<i>Eucalyptus viminalis</i>	Large	94	11.28	Road Reserve		No impacts. Retained

Legend: DBH = Diameter at breast height; NRZ = Notional Root Zone. Note: Radius of NRZ=[DBHx12]/100, Min NRZ=2m, Max NRZ=15m. * Arborist Tree numbers have been aligned where trees are in proximity to works, so to refine the ecological impact assessment.

Appendix D: Flora and fauna recorded in study area

Origin	Common name	Scientific name
Flora recorded		
I	Angled Onion	<i>Allium triquetrum</i>
	Black Wattle	<i>Acacia mearnsii</i>
	Black-anther Flax-lily	<i>Dianella revoluta</i>
I, N	Blackberry	<i>Rubus fruticosus</i> agg.
	Blackwood	<i>Acacia melanoxylon</i>
	Bracken Fern	<i>Pteridium esculentum</i>
	Broad-leaved Peppermint	<i>Eucalyptus dives</i>
	Blue Pincushion	<i>Brunonia australis</i>
	Bulbine Lily	<i>Bulbine bulbosa</i>
	Cherry Ballart	<i>Exocarpos cupressiformis</i>
	Cherry Tree	<i>Prunus</i> sp.
	Chocolate Lily	<i>Arthropodium strictum</i>
	Common Bog Sedge	<i>Schoenus apogon</i>
	Common Cassinia	<i>Cassinia aculeata</i>
	Common Rice-flower	<i>Pimelea humilis</i>
	Common Sow Thistle	<i>Sonchus oleraceus</i>
	Cotton Fireweed	<i>Senecio quadridentatus</i>
	Creeping Bossiaea	<i>Bossea prostrata</i>
	Curved Rice-flower	<i>Pimelea curviflora</i>
	Daffodil	<i>Narcissus</i> sp.
I, N	English Broom	<i>Cytisus scoparius</i>
	Fireweed	<i>Senecio glomeratus</i>
	Fireweed groundsel	<i>Senecio linearifolius</i>
	Flatweed	<i>Hypochaeris radicata</i>
I, N	Flax-leaf Broom	<i>Genista linifolia</i>
I, N	Gorse	<i>Ulex europaeus</i>
	Grey Parrot-pea	<i>Dillwynia cinerascens</i>
	Hakea Wattle	<i>Acacia hakeoides</i>
	Hop Goodenia	<i>Goodenia ovata</i>
	Ivy-leaved Violet	<i>Viola hederacea</i>
	Kangaroo Grass	<i>Themeda triandra</i>
	Manna Gum	<i>Eucalyptus viminalis</i>
	Milkmaids	<i>Burchardia umbellata</i>
I, N	Montpellier Broom	<i>Genista monspessulana</i>
	Narrow-leaved Peppermint	<i>Eucalyptus radiata</i>
	Onion Orchid	<i>Mycrotis</i> sp.
	Pale Sundew	<i>Drosera peltata</i>
	Purple Coral Pea	<i>Hardenbergia violacea</i>
	Raspwort	<i>Gonocarpus</i> sp.
	Red-anther Wallaby-grass	<i>Rytidosperma pallidum</i>
I	Ribwort Plantain	<i>Plantago lanceolata</i>
	Rush	<i>Juncus</i> sp.
	Sheep's Burr	<i>Acaena echinata</i>
	Showy Violet	<i>Viola betonicifolia</i>
	Sifton Bush	<i>Cassinia sifton</i>
	Silver Wattle	<i>Acacia dealbata</i>
	Slender Speedwell	<i>Veronica gracilis</i>
	Slender Sunorchid	<i>Thelymitra pauciflora</i>

Origin	Common name	Scientific name
	Small St Johns Wort	<i>Hypericum gramineum</i>
	Small-leaved Clematis	<i>Clematis microphylla</i>
	Snowy Daisy-bush	<i>Oleria lorata</i>
	Spear Grass	<i>Austrostipa sp.</i>
I, N	Spear Thistle	<i>Cirsium vulgare</i>
	Sun orchid	<i>Thelymitra spp</i>
	Swamp Gum	<i>Eucalyptus obliqua</i>
I	Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>
	Triggerplant	<i>Stylidium sp</i>
	Wallaby Grass	<i>Rytidosperma sp.</i>
	Wattle Mat-rush	<i>Lomandra filiformis</i>
	Weeping Grass	<i>Microleana stipoides</i>
	Willow-leaved Hakea	<i>Hakea salicifolia subsp. salicifolia</i>
	Wiry Buttons	<i>Leptorhynchus tenuifolius</i>
	Woodsorrel	<i>Oxalis sp.</i>
	Yarra Burgan	<i>Kunzea leptospermoides</i>
Fauna recorded		
	Australian Magpie	<i>Gymnorhina tibicen</i>
	Brown Falcon	<i>Falco berigora</i>
	Brown Thornbill	<i>Acanthiza pusilla</i>
	Crimson Rosella	<i>Platycercus elegans</i>
	Eastern Grey Kangaroo	<i>Macropus giganteus</i>
I	European Blackbird	<i>Turdus merula</i>
I	European Hare	<i>Lepus europaeus</i>
	Galah	<i>Eolophus roseicapilla</i>
	Grey Currawong	<i>Strepera versicolor</i>
	Grey Shrike-Thrush	<i>Colluricincla harmonica</i>
	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>
	Little Raven	<i>Corvus mellori</i>
	Long-billed Corella	<i>Cacatua tenuirostris</i>
	Red Wattlebird	<i>Anthochaera carunculata</i>
	Sacred Kingfisher	<i>Todiramphus sanctus</i>
	Spotted Pardalote	<i>Pardalotus punctatus</i>
	Striated Thornbill	<i>Acanthiza lineata</i>
	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>
	Superb Fairy-wren	<i>Malurus cyaneus</i>
	Swamp Wallaby	<i>Wallabia bicolor</i>
	Wedge-tailed Eagle	<i>Aquila audax</i>
	White-browed Scrub-wren	<i>Sericornis frontalis</i>
	White-necked Heron	<i>Ardea pacifica</i>
	Yabbie/Burrowing Crayfish	<i>Cherax sp/Engaeus sp</i>
	Yellow Thornbill	<i>Acanthiza nana</i>
	Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>

Legend: I = introduced, N = Noxious weed.

**ADVERTISED
PLAN**

ADVERTISED PLAN

Appendix E: Likelihood of occurrence analysis of threatened flora

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Acacia howittii</i>	Sticky Wattle		vu	1	25/06/2012	Confined to eastern Victoria from the upper Macalister River area near Mt Howitt south to near Yarram and east to near Tabberabbera. Grows in moist forest. Widely cultivated and naturalising in some areas (e.g. Daylesford, Greater Melbourne, Dandenong Ranges etc.). (VicFlora, 2024)	Flowers mostly Oct.	Low	Beyond main range. Targeted survey undertaken in October did not detect the species
<i>Acacia leprosa</i> var. <i>uninervia</i>	Large-leaf Cinnamon-wattle		en	1	20/08/2009	Locally common in <i>Eucalyptus</i> forest in ranges north-east of Melbourne (Healesville, Poweltown, Buxton) and near Mt Buffalo, with scattered occurrences west towards Ballarat. (VicFlora, 2024)	Flowers Aug.–Oct.	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Acacia nanodealbata</i>	Dwarf Silver-wattle		vu	61	4/04/2022	Known from forests in the Healesville-Warburton area, the top of Mt Macedon, near Creswick, and in the Otway Range. (VicFlora, 2024)	Flowers Aug.–Oct.	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Acacia rostriformis</i>	Bacchus Marsh Wattle		vu	10	17/11/2021	Confined to the Bacchus Marsh area (Lerderderg Gorge, Long Forest, Coimadai, Balliang and Werribee) where it occurs in low hilly areas in <i>Eucalyptus</i> woodland. (VicFlora, 2024)	Flowers Aug.–Oct.	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Amphibromus fluitans</i>	River Swamp Wallaby-grass	VU		None	N/A	Largely confined to permanent swamps, principally along the Murray River between Wodonga and Echuca, uncommon to rare in the south (e.g. Casterton, Moe, Yarram), probably due to historic drainage of wetlands. (VicFlora, 2024)	Nov-March	Low	No suitable habitat in study area.
<i>Bossiaea cordigera</i>	Wiry Bossiaea		en	8	26/09/2011	Occurs sporadically in south-western and central Victoria, apparently nowhere common. Favours moist situations in heathland, heathy woodland and open-forest. (VicFlora, 2024)	Oct.–Jan.	Low	Targeted survey undertaken in October did not detect the species

ADVERTISED PLAN

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Caladenia concolor</i>	Crimson Spider-orchid	VU	en	None	N/A	Sporadic and uncommon in dry open-forests, mostly of north-eastern Victoria, on ridges and slopes in well-drained shallow stony or skeletal soils. (VicFlora, 2024)	Sep.–Oct.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Caladenia ornata</i>	Ornate Pink Fingers	VU	en	None	N/A	In Victoria known only from the south-west in heathy forest on seasonally moist sandy loam. (VicFlora, 2024)	Oct.–Dec.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Caladenia versicolor</i>	Candy Spider-orchid	VU	en	None	N/A	Restricted to the western part of the Midlands region in the vicinity of Stawell, in woodland on winter-wet sandy loam. (VicFlora, 2024)	Oct.–Nov	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Coronidium gunnianum</i>	Pale Swamp Everlasting		cr	5	18/05/2011	Usually at low elevations (under c. 100 m) where mostly in grasslands and riverine <i>Eucalyptus camaldulensis</i> woodland on soils that are prone to inundation. (VicFlora, 2024)	Flowers (Nov.–) Feb.– Apr.(– Jun.).	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Dianella amoena</i>	Matted Flax-lily	EN	cr	59	8/09/2017	Largely confined to drier grassy woodland and grassland communities south of the Dividing Range (VicFlora, 2024)	Flowers mostly Nov.–Jan.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species. <i>Dianella revoluta</i> recorded onsite
<i>Dianella callicarpa</i>	Swamp Flax-lily		en	1	28/06/2005	Occurs in grassland, woodland and swamp-scrub, mostly on clay soils derived from basalt, but also on sandier soils. Recorded from e.g. Grampians, Hamilton and Portland areas. (VicFlora, 2024)	Flowers Oct.–Feb.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Dipodium pardalinum</i>	Spotted Hyacinth-orchid		en	34	16/12/2018	Scattered in higher rainfall parts of western Victoria.	Flowers Dec to March	Low	Ground layer disturbed. Low likelihood.

ADVERTISED PLAN

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Diuris basaltica</i>	Small Golden Moths Orchid	EN	cr	None	N/A	Extremely rare on basalt plains grassland immediately to the west of Melbourne. (VicFlora, 2024)	Flowers Sep.–Oct.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Diuris fragrantissima</i>	Sunshine Diuris	EN	cr	None	N/A	Exceedingly rare, restricted to remnant dry grassland on the basalt plains near Sunshine west of Melbourne. (VicFlora, 2024)	Flowers Oct.–Nov.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Dodonaea procumbens</i>	Trailing Hop-bush	VU		None	N/A	Grows in low-lying, often winter-wet areas in woodland, low open-forest and grasslands on sands and clays. (VicFlora, 2024)	Flowers summer.	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Eucalyptus aggregata</i>	Black Gum	VU	vu	29	25/05/2022	Usually grows on flats and valleys near watercourses in open woodland. (Chippendale, 2024)	Flowers summer–autumn.	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Eucalyptus brookeriana</i>	Brooker's Gum		en	8	10/06/2015	Grows on slopes, ridge tops and in alluvial areas near watercourses, in tall open forest and sometimes near or in rainforest. (Chippendale, 2024)	Flowers summer–autumn.	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Eucalyptus yarraensis</i>	Yarra Gum		cr	11	8/07/2018	Grows in alluvial soil often over clay, in valleys and nearbyslopes in open woodland, now mostly cleared for pastoral use. (Chippendale, 2024)	Flowers Sep.–Dec	Low	Conspicuous. Targeted survey undertaken in October did not detect the species
<i>Euphrasia collina subsp. trichocalycina</i>	Purple Eyebright		vu	3	31/10/2007	Occurs in open or shrubby sclerophyll forest or woodland, heathland and swamps. (VicFlora, 2024)	Flowers Aug.–?Jan.	Low	Targeted survey undertaken in October did not detect the species
<i>Geranium solanderi var. solanderi s.s.</i>	Austral Crane's-bill		en	2	11/04/2014	An uncommon species of damp to dryish, usually sheltered sites in grassy woodlands, often along drainage lines or in seepage areas. (VicFlora, 2024)	Flowers Oct.–Jan.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species

ADVERTISED PLAN

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Geranium sp. 1</i>	Large-flower Crane's-bill		cr	4	26/02/2010	Known only from basaltic grassland (now generally weedy) in the Glenroy-Broadmeadows area, Riddells Creek and Malmsbury. (VicFlora, 2024)	Flowering recorded in Apr., Jun., Dec.	Low	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Glycine latrobeana</i>	Clover Glycine	VU	vu	None	N/A	Widespread but of sporadic occurrence and rarely encountered. Grows mainly in grasslands and grassy woodlands. (VicFlora, 2024)	Flowers mostly Sep.–Dec.(–Feb. at higher altitudes).	Low	Limited habitat. Targeted survey undertaken in October did not detect the species
<i>Lachnagrostis adamsonii</i>	Adamson's Blown-grass	EN	en	None	N/A	Occurs in and around saline depressions on the Volcanic Plain where recorded from Portalington west almost to the South Australian border. (VicFlora, 2024)	Flowers Nov.–Feb.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Lepidium aschersonii</i>	Spiny Peppercross	VU	en	None	N/A	Mostly on heavy clay soil near salt lakes on volcanic plain (VicFlora, 2024)	Flowers spring–autumn.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Lepidium hyssopifolium</i>	Basalt Pepper-cross	EN	en	None	N/A	Collected from scattered sites on the volcanic plain, but now much reduced from its former range and recorded recently only from e.g. Moorabool, Winchelsea, Bacchus Marsh, Woodend, Trentham. Most recent collections are from disturbed, rather weedy sites. One collection from near Port Fairy is noteworthy for its occurrence in a slightly saline estuary amongst saltmarsh and fringing sedgeland. (VicFlora, 2024)	Flowers mostly summer–autumn.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Leucochrysum albicans subsp. tricolor</i>	Hoary Sunray	EN	en	None	N/A	Very rare in Victoria, the only recent collections from volcanic grassland remnants in the Wickliffe, Willaura, Streatham, Inverleigh and Creswick districts. (VicFlora, 2024)	Flowers Nov.–Dec.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species

ADVERTISED PLAN

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Melaleuca armillaris subsp. armillaris</i>	Giant Honey-myrtle		en	3	1/12/2011	Mainly confined to near-coastal sandy heaths, scrubs slightly raised above saltmarsh, riparian scrubs, rocky coastlines and foothill outcrops eastwards from about Marlo. Occurrences to the west are naturalized from cultivated stock. (VicFlora, 2024)	Flowers summer.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Microseris scapigera s.s.</i>	Plains Yam-daisy		cr	3	10/01/2009	Formerly widespread in moist depressions on the basalt plains of western Victoria, but now very rare due to loss of habitat. (VicFlora, 2024)	Flowers mainly spring and summer.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Myriophyllum porcatum</i>	Ridged Water-milfoil	VU	cr	None	N/A	Rare and restricted to northern and north-western Victoria where it has been recorded growing in temporary waterholes, lagoons, farm dams and rock holes, and on clay pans. (VicFlora, 2024)	Flowers Sep.–Dec	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Pimelea spinescens subsp. spinescens</i>	Spiny Rice-flower	CR	cr	None	N/A	Grows in grassland, open shrubland and occasionally woodland, often on basalt-derived soils. Mostly west of Melbourne (to near Horsham), but extending as far north as Echuca. (VicFlora, 2024)	Flowers Apr.–Aug.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Prasophyllum suaveolens</i>	Fragrant Leek-orchid	EN	cr	None	N/A	Endemic to the basalt plains of south-western Victoria where it grows in grassland and grassy woodland on brown water-retentive clay loams. (VicFlora, 2024)	Flowers Oct.–Nov.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Pterostylis chlorogramma</i>	Green-striped Greenhood	VU	en	1	24/09/1990	Apparently localized in Victoria, but exact range uncertain due to confusion with closely allied species. Grows in moist areas of heathy and shrubby forest, on well-drained soils. (VicFlora, 2024)	Flowers Jul.–Sep.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Pterostylis rubescens</i>	Inland Red-tip Greenhood		en	1	11/03/2000	Widespread across northern Victoria on slopes and ridges in drier open forests and woodlands on well-drained soils.	April-June	Low	Outside of main range. Ground disturbance in study area.

ADVERTISED PLAN

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Pultenaea reflexifolia</i>	Wombat Bush-pea		vu	6	10/09/2023	Restricted to a few small areas of dry forest west of Melbourne in Gisborne, Barkstead and Lerderderg areas (VicFlora, 2024)	Flowers Nov	Low	Targeted survey undertaken in October did not detect the species
<i>Pultenaea weindorferi</i>	Swamp Bush-pea		en	7	6/11/2001	Confined to swamps and drainage lines in scattered localities including Tonimbuk area and near Daylesford and Kinglake. Often associated with <i>Eucalyptus cephalocarpa</i> .	Oct-Nov	Low	Targeted survey undertaken in October did not detect the species
<i>Rutidosia leptorhynchoide</i>	Button Wrinklewort	EN	en	None	N/A	In Victoria confined to basaltic grasslands between Rokewood and Melbourne where endangered due to loss of habitat (VicFlora, 2024)	Flowers mostly late spring and summer.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Senecio campylocarpus</i>	Floodplain Fireweed		en	2	17/11/2021	In Victoria mostly throughout central Victoria and in the north-east in loam to clay soils in forest and woodland, usually in seasonally inundated areas. (VicFlora, 2024)	Flowers spring–autumn.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	VU	cr	None	N/A	In Victoria largely confined to remnant <i>Themeda</i> grasslands on loamy clay soils derived from basalt from near Melbourne west to Skipton area. Also known from auriferous ground near Stawell. (VicFlora, 2024)	Flowers Aug.–Oct.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Senecio microbasis</i>	Slender Fireweed		vu	1	13/12/2010	In Victoria grows in drier forest and woodland, mostly in east Gippsland between the Tambo and Snowy River with a few sporadic occurrences in central Victoria. (VicFlora, 2024)	Flowers spring–summer	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species
<i>Senecio psilocarpus</i>	Swamp Fireweed	VU		3	16/11/2016	Rare, restricted in Victoria to a few herb-rich winter-wet swamps throughout the south of the state, west from Sale, growing on volcanic clays or peaty soils. (VicFlora, 2024)	Flowers Nov.–Mar.	Negligible	No suitable habitat. Targeted survey undertaken in October did not detect the species

Scientific Name	Common Name	EPBC Act	FFG Act	No. of records in 10km	Last Record in 10km	Habitat description	Flowering period	Likelihood of occurrence rating	Rationale
<i>Stylidium armeria subsp. pilosifolium</i>	Hairy-leaf Triggerplant		cr	10	3/12/2014	Restricted to dry, shaly soils in grassy or heathy woodland in the south-east Macedon Ranges near Barringo and Riddels Creek and also in the Pyrete Range. (VicFlora, 2024)	Flowers spring.	Low	Targeted survey undertaken in October did not detect the species
<i>Thelymitra orientalis</i>	Hoary Sun-orchid	CR	cr	None	N/A	Grows in damp heathy flats and seepage areas usually in peaty white sands. (VicFlora, 2024)	Flowers Oct.–Nov.	Low	Targeted survey undertaken in October did not detect the species
<i>Xerochrysum palustre</i>	Swamp Everlasting	VU	cr	41	23/02/2023	Occurs in lowland swamps, usually on black cracking clay soils, scattered from near the South Australian border north-west of Portland to Bairnsdale district, but rare due to habitat depletion. (VicFlora, 2024)	Flowers Nov.–Mar.	Low	No suitable habitat

Legend: EPBC Act (Status under the EPBC Act): CR = critically endangered, EN = endangered, VU = vulnerable; FFG Act (Status under the FFG Act): CR = critically endangered, EN = endangered, VU = vulnerable

**ADVERTISED
PLAN**

ADVERTISED PLAN

Appendix F: Likelihood of occurrence analysis of threatened fauna

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Birds								
Australasian Bittern	<i>Botaurus poiciloptilus</i>	EN	cr	3	3/03/2017	Frequents reedbeds, and other vegetation in water such as cumbungi, lignum and sedges.	Negligible	No suitable habitat in study area.
Australian Painted Snipe	<i>Rostratula australis</i>	EN	cr	None	N/A	Inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. Also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains.	Negligible	No suitable habitat in study area.
Barking Owl	<i>Ninox connivens</i>		cr	3	9/03/2007	Found in open woodlands and the edges of forests, often adjacent to farmland. They are less likely to use the interior of forested habitat.	Low	Unlikely to regularly utilise small area of treed habitat, compared to larger forest blocks that occur further to the north/north west.
Blue-winged Parrot	<i>Neophema chrysostoma</i>	VU		9	16/03/2019	Inhabits a range of habitats from coastal, sub-coastal and inland areas, right through to semi-arid zones. Throughout their range they favour grasslands and grassy woodlands. They are often found near wetlands both near the coast and in semi-arid zones.	Low	No suitable habitat in study area.
Brown Treecreeper	<i>Climacteris picumnus</i>	VU		5	19/10/2020	Found in the drier open forests and woodlands	Low	Unlikely to regularly utilise the mix of eucalypts recorded onsite. Brown Treecreeper prefers drier forest/woodland eucalypt species.
Common Greenshank	<i>Tringa nebularia</i>	EN, M	en	None	N/A	Found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity, typically with large mudflats and saltmarsh, mangroves or seagrass.	Negligible	No suitable habitat in study area.

ADVERTISED PLAN

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Common Sandpiper	<i>Actitis hypoleucos</i>	M	vu	None	N/A	Utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats.	Negligible	No suitable habitat in study area.
Curlew Sandpiper	<i>Calidris ferruginea</i>	CR, M	cr	None	N/A	Intertidal mudflats in sheltered coastal areas. Non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	Negligible	No suitable habitat in study area.
Diamond Dove	<i>Geopelia cuneata</i>		vu	3	5/01/2017	Diamond Doves gather in small parties or flocks in dry open savanna in mulga areas often among spinifex or grasses. They are also often in open riparian woodland (beside waterways).	Low	No preferred habitat in study area
Diamond Firetail	<i>Stagonopleura guttata</i>	VU	vu	1	28/01/2016	Found in open grassy woodland, heath and farmland or grassland with scattered trees	Low	No preferred habitat in study area
Eastern Great Egret	<i>Ardea alba modesta</i>		vu	1	16/03/2018	Distributed across mainland Australia and preferring permanent shallow waters; including damp or flooded grasslands, wetland habitat, rivers, lakes and estuarine mudflats.	Negligible	No suitable habitat in study area.
Fork-tailed Swift	<i>Apus pacificus</i>	M		None	N/A	Almost exclusively aerial. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas.	Low	No preferred habitat in study area
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	EN	en	24	12/06/2024	During summer, the Gang-gang Cockatoo is found in tall mountain forests and woodlands, with dense shrubby understoreys. In winter, Gang-gangs will move to lower altitudes into drier, more open forests and woodlands. At this time, they may be seen by roadsides and in parks and gardens of urban areas. They require tall trees for nest hollows.	Moderate	Wide ranging. Recent records east of Macedon. May occasionally utilise treed habitat in the study area.

ADVERTISED PLAN

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Grey Falcon	<i>Falco hypoleucos</i>	VU	vu	None	N/A	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast.	Negligible	No suitable habitat in study area.
Grey Goshawk	<i>Accipiter novaehollandiae</i>		en	1	7/04/2021	Occurs in coastal areas in northern and eastern Australia, found in most forest types, especially tall closed forests, including rainforests.	Negligible	No suitable habitat in study area.
Hooded Robin (south-eastern)	<i>Melanodryas cucullata cucullata</i>	EN	vu	None	N/A	Found in lightly timbered woodland, mainly dominated by acacia and/or eucalypts.	Negligible	No suitable habitat in study area.
Latham's Snipe	<i>Gallinago hardwickii</i>	VU, M		5	24/12/2019	Occurs in a range of permanent and ephemeral wetlands including freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies)	Negligible	No suitable habitat in study area.
Lewin's Rail	<i>Lewinia pectoralis</i>		vu	24	16/03/2021	Freshwater to saline wetlands, either permanent or ephemeral.	Negligible	No suitable habitat in study area.
Painted Honeyeater	<i>Grantiella picta</i>	VU	vu	None	N/A	Found in dry open forests and woodlands, and is strongly associated with mistletoe.	Low	No preferred habitat in study area
Pectoral Sandpiper	<i>Calidris melanotos</i>	M		None	N/A	Prefers shallow fresh to saline wetlands and is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	Negligible	No suitable habitat in study area.
Powerful Owl	<i>Ninox strenua</i>		vu	23	21/05/2024	Occurs in open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. Will sometimes be found in open areas near forests such as parks and suburban areas. Needs old growth trees to nest.	Moderate	Suitable forest habitat within the study area, comprising many large trees, some with hollows. Recent records in and east of Macedon, though limited connectivity, and lack of preferred riparian forest vegetation. Not recorded in targeted surveys, but may occasionally forage in treed vegetation in the study area.

ADVERTISED PLAN

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	VU, M		None	N/A	Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	Negligible	No suitable habitat in study area.
Southern Whiteface	<i>Aphelocephala leucopsis</i>	VU		None	N/A	Dry open forests and woodland and inland scrubs of mallee, mulga and saltbush are the preferred habitat of Southern Whiteface, especially areas with fallen timber or dead trees and stumps.	Negligible	No suitable habitat in study area.
Swift Parrot	<i>Lathamus discolor</i>	EN	cr	None	N/A	Breeds in Tasmania and overwinters in Victoria. Found in dry sclerophyll forests and woodlands, suburban parks and gardens where it feeds on the nectar of flowering eucalypts, namely Grey, Red Ironbark, Mugga Ironbark, Yellow Gum and White Box. Also feed on lerp psyllids amongst Red Gum.	Low	No records within 10kms of study area. Study area lacks preferred feed trees. May occasionally pass through area, but unlikely to regularly utilise habitat in the study area given the type of forest present and lack of preferred feed trees.
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>		en	1	23/05/2010	Habitat generally characterised by presence of large areas of open water sources including swamps, rivers, lakes and the sea. Terrestrial habitat includes coastal dunes, tidal flats, grassland, heathland, woodland and forest. Breeding within mature open forest, tall woodland and swamp sclerophyll forest close to foraging habitat.	Negligible	No suitable habitat in study area.
White-throated Needletail	<i>Hirundapus caudacutus</i>	VU, M	vu	12	5/01/2017	Almost exclusively aerial, over a wide variety of habitats	Low	Unlikely to regularly utilise habitat in the study area.
Yellow Wagtail	<i>Motacilla flava</i>	M		None	N/A	Data deficient in Australia. Typically in Europe where the species favours wet meadows, marshland, grassy and muddy lakeshores. Occurs in fields and often near livestock during migration.	Negligible	No suitable habitat in study area.
Fish								

ADVERTISED PLAN

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Flathead Galaxias	<i>Galaxias rostratus</i>	EN	vu	None	N/A	Only known from the southern half of the Murray-Darling Basin system where it inhabits a variety of habitats including billabongs, lakes, swamps and rivers, with a preference for still or slow flowing waters.	Negligible	No suitable habitat in study area.
Southern Pygmy Perch	<i>Nannoperca australis</i> (Murray-Darling lineage)	VU	vu	1	28/12/1997	Southern Pygmy Perch usually occur amongst aquatic vegetation in a wide range of environments. The species has a patchy distribution due population declines in recent years.	Negligible	No suitable habitat in study area.
Yarra Pygmy Perch	<i>Nannoperca obscura</i>	EN	vu	None	N/A	Preferring slow-moving or still waters including rivers, streams and lakes. Often located within sites that contain abundant submerged and emergent aquatic vegetation and wood debris.	Negligible	No suitable habitat in study area.
Frogs								
Brown Toadlet	<i>Pseudophryne bibronii</i>		en	1	3/08/1980	Lives in forests, heathlands and grasslands where it can be heard calling throughout the year	Low	No suitable aquatic habitat in study area. No recent records
Growling Grass Frog	<i>Litoria raniformis</i>	VU	vu	7	17/09/1988	Persists in waterways and other aquatic habitats in the greater Melbourne region. Key habitat features for the species includes submerged vegetation for egg-laying, rocks and logs for basking, permanent freshwater lagoons for breeding and cracks, as well as debris and dense vegetation for refuge.	Low	No suitable aquatic habitat in study area. No recent records
Southern Toadlet	<i>Pseudophryne semimarmorata</i>		en	1	2/05/1989	Found at lower elevations within damp areas including leaf litter, logs and rocks. Often observed in a range of environments including forests, woodlands, heaths and grasslands.	Low	No suitable aquatic habitat in study area. No recent records
Mammals								
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>		vu	13	29/09/2023	Prefers dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter	Moderate	Wide ranging. Recent records in region. May utilise hollow-bearing treed habitat in the study area. Not recorded in targeted surveys. Unlikely to be resident.

ADVERTISED PLAN

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Common Dunnart	<i>Sminthopsis murina murina</i>		vu	2	15/03/1995	The species is distributed in eastern and southern Australia, primarily occurring in dry sclerophyll forests and mallee heathland with an abundance of ground cover and leaf litter.	Low	No preferred habitat in study area
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	VU	vu	None	N/A	Requires foraging resources and roosting sites. The primary food source is blossom from Eucalyptus and related genera but commonly forages on fruit trees in urban areas. Two known Flying Fox camps occur in the greater Melbourne region including one at Yarra Bend and one at Doveton.	Low	No GHFF camps occur within the region. Closest known camps/roosts occur in Melbourne and Bendigo. GHFF from these camps unlikely to regularly forage as far as study area.
New Holland Mouse	<i>Pseudomys novaehollandiae</i>	VU	en	None	N/A	Open heathlands, woodlands and dry sclerophyll forests with a heath understorey, grasslands and vegetated sand dunes	Negligible	No habitat in study area
Platypus	<i>Ornithorhynchus anatinus</i>		vu	9	13/12/2021	Inhabits freshwater streams, ranging from alpine creeks to tropical lowland rivers; also lakes, shallow reservoirs and farm dams. Prefers areas with steep, vegetated banks in which to burrow; entrances concealed under overhangs or vegetation.	Negligible	No suitable habitat in study area.
Southern Greater Glider	<i>Petauroides volans</i>	EN	en	14	29/11/1993	Greater Gliders are distributed throughout forested parts of eastern Victoria, including inland and southern falls of the Great Dividing Range, as well as the Strzelecki and Strathbogie Ranges. Greater Gliders are forest dependent and prefer older tree age classes in moist forest types. Typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.	Low	No preferred tall forest habitat in study area. Unlikely to regularly occur
Spot-tailed Quoll	<i>Dasyurus maculatus maculatus</i>	EN	en	4	1/01/1992	Temperate and subtropical rainforests in mountain areas wet sclerophyll forest lowland forests open and closed eucalypt woodlands.	Negligible	No suitable habitat in study area.

ADVERTISED PLAN

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Yellow-bellied Glider (south-eastern)	<i>Petaurus australis australis</i>	VU	vu	None	N/A	Occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. The subspecies shows a preference for large patches of mature old growth forest that provide suitable trees for foraging and shelter. There is also a clear preference for forests with a high proportion of winter-flowering and smooth-barked eucalypts.	Low	No preferred tall forest habitat in study area. Unlikely to regularly occur
Reptiles								
Mountain Skink	<i>Liopholis montana</i>	EN	en	None	N/A	The species occupies tall open forest, woodland and heathland with granite and basalt boulders, rocks, slabs, rock screes and tors in montane and subalpine areas of south-east Australia.	Negligible	No suitable habitat in study area.
Pink-tailed Worm-lizard	<i>Aprasia parapulchella</i>	VU	en	None	N/A	Habitat includes rocky outcrops or scattered partly buried rocks in grassland and woodland in south-east Australia.	Negligible	No suitable habitat in study area.
Striped Legless Lizard	<i>Delma impar</i>	VU	en	None	N/A	Inhabits intact grassland habitats where it shelters in grass tussocks, under rocks and in cracks in the soil	Negligible	No suitable habitat in study area.
Swamp Skink	<i>Lissolepis coventryi</i>	EN	en	None	N/A	Often restricted to densely vegetated swamps and associated watercourses, and adjacent wet heaths (Melaleuca or Leptospermum thickets), sedgeland and saltmarshes. Can occur in association with freshwater and saltmarsh environments.	Negligible	No suitable habitat in study area.
Tussock Skink	<i>Pseudemoia pagenstecheri</i>		en	1	26/03/2003	Found from the Grampians through the basalt plains west of Melbourne to north-east Victoria. Favouring open grassy habitat with rocky and cracked soil for refuge	Negligible	No suitable habitat in study area.

Common Name	Scientific Name	EPBC Act	FFG Act	No. of records in 10km	Last record in 10km	Habitat description	Likelihood of occurrence rating	Rationale
Victorian Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	CR	cr	None	N/A	A grassland specialist often restricted to remnant and high-quality native grassland with diverse habitat structure including tussock grasses, low biomass and bare ground. The species often utilises and is dependent on arthropod burrows (particularly Wolf Spider and Wood Cricket burrows) for shelter and nests.	Negligible	No suitable habitat in study area.
Invertebrates								
Amethyst Hairstreak Butterfly	<i>Jalmenus icilius</i>		en	25	22/01/2021	Occurs in small in woodland areas near its host plant. Caterpillars feed on certain Acacia species including Acacia pycnantha and Acacia retinodes.	Low	No preferred host/feed plants in the study area.

Legend: EPBC Act (Status under the EPBC Act): CR = critically endangered, EN = endangered, VU = vulnerable, M = migratory; FFG Act (Status under the FFG Act): CR = critically endangered, EN = endangered, VU = vulnerable

**ADVERTISED
PLAN**

Appendix G: EPBC Act Protected Matters Search Tool (PMST) Report

**ADVERTISED
PLAN**



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 26-Nov-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

**ADVERTISED
PLAN**

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	7
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	57
Listed Migratory Species:	9

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 <https://www.dcceew.gov.au/parks-heritage/heritage>

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

Commonwealth Lands:	37
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	10
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	9
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

ADVERTISED
PLAN

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	500 - 600km upstream from Ramsar site	In buffer area only
Gunbower forest	150 - 200km upstream from Ramsar site	In buffer area only
Hattah-kulkyne lakes	300 - 400km upstream from Ramsar site	In buffer area only
Nsw central murray state forests	100 - 150km upstream from Ramsar site	In buffer area only
Port phillip bay (western shoreline) and bellarine peninsula	30 - 40km upstream from Ramsar site	In buffer area only
Riverland	400 - 500km upstream from Ramsar site	In buffer area only
The coorong, and lakes alexandrina and albert wetland	400 - 500km upstream from Ramsar site	In buffer area only

Listed Threatened Ecological Communities	[Resource Information]
--	--------------------------

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

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	Critically Endangered	Community known to occur within area	In feature area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community may occur within area	In feature area
Natural Temperate Grassland of the Victorian Volcanic Plain	Critically Endangered	Community may occur within area	In feature area

ADVERTISED
PLAN

Community Name	Threatened Category	Presence Text	Buffer Status
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	Critically Endangered	Community likely to occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
 Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Nannoperca australis Murray-Darling Basin lineage			
Southern Pygmy Perch (Murray-Darling Basin lineage) [91711]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Nannoperca obscura			
Yarra Pygmy Perch [26177]	Endangered	Species or species habitat may occur within area	In feature area
Prototroctes maraena			
Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area	In buffer area only
FROG			
Litoria raniformis			
Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat likely to occur within area	In feature area
INSECT			
Synemon plana			
Golden Sun Moth [25234]	Vulnerable	Species or species habitat likely to occur within area	In feature area
MAMMAL			
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pseudomys novaehollandiae			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
PLANT			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Caladenia concolor Crimson Spider-orchid, Maroon Spider- orchid [5505]	Vulnerable	Species or species habitat may occur within area	In feature area
Caladenia ornata Ornate Pink Fingers [76213]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Caladenia versicolor Candy Spider-orchid [24392]	Vulnerable	Species or species habitat may occur within area	In feature area
Dianella amoena Matted Flax-lily [64886]	Endangered	Species or species habitat known to occur within area	In feature area
Diuris basaltica Small Golden Moths Orchid, Early Golden Moths [64654]	Endangered	Species or species habitat may occur within area	In feature area
Diuris fragrantissima Sunshine Diuris, Fragrant Doubletail, White Diuris [21243]	Endangered	Species or species habitat may occur within area	In feature area
Dodonaea procumbens Trailing Hop-bush [12149]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Eucalyptus aggregata Black Gum [20890]	Vulnerable	Species or species habitat known to occur within area	In feature area
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lachnagrostis adamsonii Adamson's Blown-grass, Adamson's Blowngrass [76211]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lepidium aschersonii Spiny Peppercress [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat known to occur within area	In feature area
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat likely to occur within area	In feature area
Myriophyllum porcatum Ridged Water-milfoil [19919]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pimelea spinescens subsp. spinescens Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea [21980]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Prasophyllum suaveolens Fragrant Leek-orchid [64956]	Endangered	Species or species habitat may occur within area	In feature area
Pterostylis chlorogramma Green-striped Greenhood [56510]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rutidosis leptorhynchoides Button Wrinklewort [67251]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Senecio psilocarpus Swamp Fireweed, Smooth-fruited Groundsel [64976]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thelymitra orientalis Hoary Sun-orchid [88011]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat known to occur within area	In feature area
REPTILE			
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Liopholis montana Mountain Skink [87162]	Endangered	Species or species habitat likely to occur within area	In feature area
Lissolepis coventryi Swamp Skink, Eastern Mourning Skink [84053]	Endangered	Species or species habitat may occur within area	In feature area
Tympanocryptis pinguicolla Victorian Grassland Earless Dragon [66727]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

ADVERTISED PLAN

Other Matters Protected by the EPBC Act

Commonwealth Lands

[[Resource Information](#)]

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

Commonwealth Land Name	State	Buffer Status
Defence		
Defence - C/DISASTER COLLEGE-MT MACEDON [21379]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21370]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21371]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21372]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21373]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21374]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21375]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21376]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21358]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21377]	VIC	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - C/DISASTER COLLEGE-MT MACEDON [21357]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21359]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21392]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21393]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21390]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21391]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21369]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21368]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21363]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21362]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21360]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21361]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21383]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21382]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21385]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21378]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21388]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21389]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21380]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21381]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21366]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21367]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21364]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21365]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21386]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21387]	VIC	In buffer area only
Defence - C/DISASTER COLLEGE-MT MACEDON [21384]	VIC	In buffer area only

ADVERTISED
PLAN

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Conglomerate Gully F.R	Nature Conservation Reserve	VIC	In buffer area only
Gisborne F.R	Nature Conservation Reserve	VIC	In buffer area only
Lerderderg	State Park	VIC	In buffer area only
Macedon F.R	Nature Conservation Reserve	VIC	In buffer area only
Mount Charlie F.R	Nature Conservation Reserve	VIC	In buffer area only
Pyrete Range	Reference Area	VIC	In buffer area only
T Hill F.R.	Nature Conservation Reserve	VIC	In buffer area only
Tunnel Creek N.F.R	Natural Features Reserve	VIC	In buffer area only
Woodend I13 B.R	Natural Features Reserve	VIC	In buffer area only
Wyberjong SS.R.	Natural Features Reserve	VIC	In buffer area only

Regional Forest Agreements	[Resource Information]
----------------------------	--------------------------

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State	Buffer Status
West Victoria RFA	Victoria	In feature area

EPBC Act Referrals	[Resource Information]
--------------------	--------------------------

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Braemar College - Romsey Road widening works, Woodend, Vic	2016/7689	Not Controlled Action	Completed	In buffer area only
Colwyn Estate Retarding Basin	2007/3769	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Regional Fast Rail Project - Bendigo Country Works Package	2002/675	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
drainage, trenching and cable laying works	2003/1132	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Realignment of the Gisborne-Kilmore Main Road	2003/1153	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Regional Fibre Optic Project (RFOP)	2003/978	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

ADVERTISED

PLAN

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

**ADVERTISED
PLAN**

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](#)

**ADVERTISED
PLAN**

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.

[© Commonwealth of Australia](#)

Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

**ADVERTISED
PLAN**

Appendix H: Native Vegetation Removal Report

**ADVERTISED
PLAN**

Native Vegetation Removal Report

NVRR ID: 339_20260525_XS3

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 Guidelines). This report is **not an assessment by DEECA** 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.

Report details

Date created: 25/05/2026

Local Government Area: MACEDON RANGES SHIRE

Shapefile name:

ImpactedNativeVegetation_Updated25052026.shp
ImpactedNativeTrees.shp

Site assessor name:

Jackie Manders
Leah Smyth

Registered Aboriginal Party: Wurundjeri

Coordinates: 144.57348, -37.45103

Address:

2 ALLISON LANE MACEDON 3440
39 BLACK FOREST DRIVE MACEDON 3440
BLACK FOREST DRIVE MACEDON 3440

Regulator Notes

Removal polygons are located:

**ADVERTISED
PLAN**

Summary of native vegetation to be removed

Assessment pathway	Detailed Assessment Pathway		
Location category	Location 1 The native vegetation extent map indicates that this area is not typically characterised as supporting native vegetation. It does not meet the criteria to be classified as Location Category 2 or 3. The removal of less than 0.5 hectares of native vegetation in this area will not require a Species Offset.		
Total extent including past and proposed removal (ha) <i>Includes endangered EVCs (ha): 0</i>	2.406	<i>Extent of past removal (ha)</i>	0
		<i>Extent of proposed removal - Patches (ha)</i>	2.377
		<i>Extent of proposed removal - Scattered Trees (ha)</i>	0.028
No. Large Trees proposed to be removed	10	<i>No. Large Patch Trees</i>	10
		<i>No. Large Scattered Trees</i>	0
No. Small Scattered Trees	1		

Offset requirements if approval is granted

Any approval granted will include a condition to obtain an offset, before the removal of native vegetation, that meets the following requirements:

General Offset amount ¹	1.3770 General Habitat Units
Vicinity	Melbourne Water CMA or MACEDON RANGES SHIRE LGA
Minimum strategic biodiversity value score ²	0.6214
Large Trees*	10
*The total number of Large Trees that the offset must protect	10 Large Trees to be protected in either the General, Species or combination across all habitat units protected

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 with mapped habitat at the site

Appendix 3 includes the following figures

- Location map
- Strategic Biodiversity Value map
- Condition map
- Endangered EVCs map
- Aerial photograph showing mapped native vegetation
- Property in context
- Habitat Importance maps

**ADVERTISED
PLAN**

1. The General Offset amount required is the sum of all General Habitat Units in Appendix 1.

2. Minimum strategic biodiversity value score is 80 per cent of the weighted average score across habitat zones where a General Offset is required.

3. The Species Offset amount(s) required is the sum of all Species Habitat Units in Appendix 1.



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 approval from the responsible authority. The responsible authority will refer your application to DEECA for assessment, as required. **This report is not a referral assessment by DEECA.**

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

Refer to 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 as applicable.
- A defensible space statement as applicable.
- A statement about the Native Vegetation Precinct Plan (NVPP) 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.

**ADVERTISED
PLAN**

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 meets or exceeds the Species Offset threshold, a Species Offset is required. This test is completed for all species with mapped habitat 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 are calculated by the following equation in accordance with the Guidelines: ***Species Habitat Units = extent without overlap x condition score x species landscape factor x 2, where the species landscape factor = 0.5 + (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 are calculated by the following equation in accordance with the Guidelines: ***General Habitat Units = extent without overlap x condition score x general landscape factor x 1.5, where the general landscape factor = 0.5 + (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

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
HZ01_1b-b	Patch	-	CVU_0128	Vulnerable	no	0.510	3	0.624	0.624	0.896	-	0.452	General
HZ01_2b-b	Patch	-	CVU_0128	Vulnerable	no	0.510	7	0.737	0.737	0.581	-	0.446	General
HZ01_a-a	Patch	-	CVU_0128	Vulnerable	no	0.510	-	0.031	0.031	0.901	-	0.023	General

**ADVERTISED
PLAN**

Information provided by or on behalf of the applicant							Information calculated by NVR Map						
Zone	Type	DBH (cm)	EVC code	Bioregional conservation status	Partial Removal	Condition score	Large Tree(s)	Polygon extent (ha)	Extent without overlap (ha)	SBV score	HI Score	Habitat Units	Offset Type
HZ02_1b-b	Patch	-	CVU_0128	Vulnerable	no	0.330	-	0.202	0.202	0.900	-	0.095	General
HZ02_a-a	Patch	-	CVU_0128	Vulnerable	no	0.330	-	0.782	0.782	0.825	-	0.353	General
11-c	Scattered Tree	12	CVU_0128	Vulnerable	no	0.200	-	0.031	0.028	0.900	-	0.008	General

ADVERTISED
PLAN

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

This table identifies all rare or threatened species with mapped habitat at the site and the proportional impact associated with the proposed native vegetation removal.

Species common name	Species scientific name	Taxon ID	Conservation status	Group	Habitat impacted	Proportional impact (%)
Yarra Gum	<i>Eucalyptus yarraensis</i>	501326	Critically Endangered	Dispersed	Habitat importance map	0.0001
Tufted Club-sedge	<i>Isolepis wakefieldiana</i>	501789	Endangered	Dispersed	Habitat importance map	0.0001
Swamp Everlasting	<i>Xerochrysum palustre</i>	503763	Critically Endangered	Dispersed	Habitat importance map	0.0001
Pale Swamp Everlasting	<i>Coronidium gunnianum</i>	504655	Critically Endangered	Dispersed	Habitat importance map	0.0001
Plains Yam-daisy	<i>Microseris scapigera</i> s.s.	504657	Critically Endangered	Dispersed	Habitat importance map	0.0001
White-throated Needletail	<i>Hirundapus caudacutus</i>	10334	Vulnerable	Dispersed	Habitat importance map	0.0000
Chestnut-rumped Heathwren	<i>Calamanthus pyrrhopygius</i>	10498	Vulnerable	Dispersed	Habitat importance map	0.0000
Speckled Warbler	<i>Chthonicola sagittatus</i>	10504	Endangered	Dispersed	Habitat importance map	0.0000
Dwarf Silver Wattle	<i>Acacia nano-dealbata</i>	500064	Vulnerable	Dispersed	Habitat importance map	0.0000

Habitat Group

- Highly localised habitat means there is 2,000 hectares or less mapped habitat for the species.
- Dispersed habitat means there is more than 2,000 hectares of mapped habitat for the species.

Habitat Impacted

The Species General Offset test, as described in Section 5.3.1 of the Guidelines, is used to determine if proposed native vegetation removal will result in a proportionally significant impact on the habitat value of rare or threatened species. The test is applied where the native vegetation proposed for removal:

**ADVERTISED
PLAN**

- 
- Intersects the Habitat Importance Map for a rare or threatened species; or
 - Intersects the 'top ranking' modelled habitat for a rare or threatened species with dispersed habitat, as identified in its Top Ranking Habitat Importance Map.

Top Ranking Maps consist of the 2,000 hectares of habitat with the highest Habitat Importance Scores for each dispersed species.

The 'Habitat impacted' column identifies whether the Habitat Importance Map or its Top Ranking Map was used to determine the proportional impact for a species with dispersed habitat.

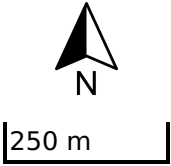
**ADVERTISED
PLAN**

Appendix 3: Images of mapped native vegetation

1. Property in context

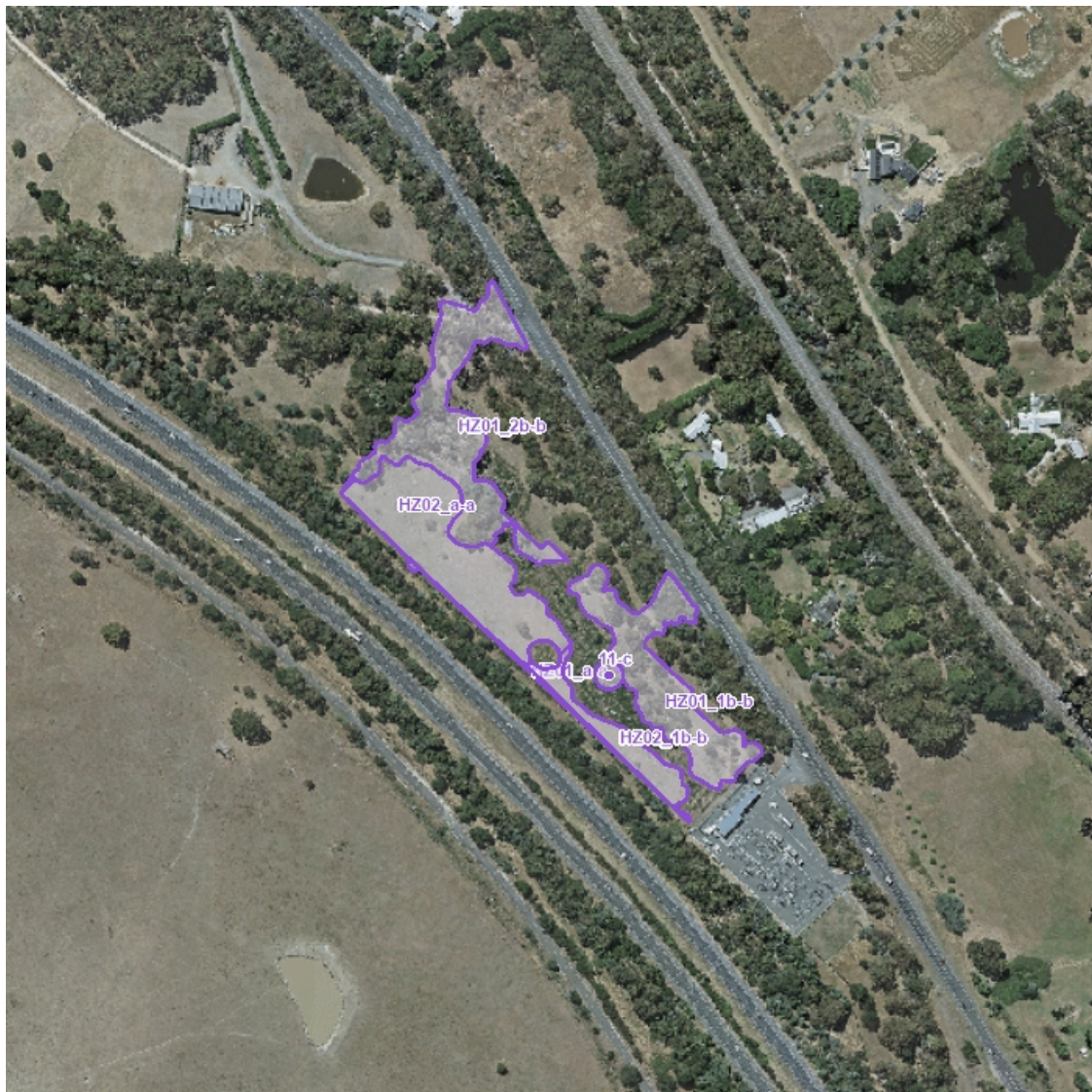


- Proposed Removal
- Past Removal
- Partial Removal
- Property Boundaries

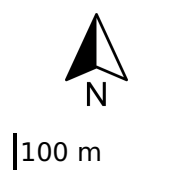


ADVERTISED
PLAN

2. Aerial photograph showing mapped native vegetation

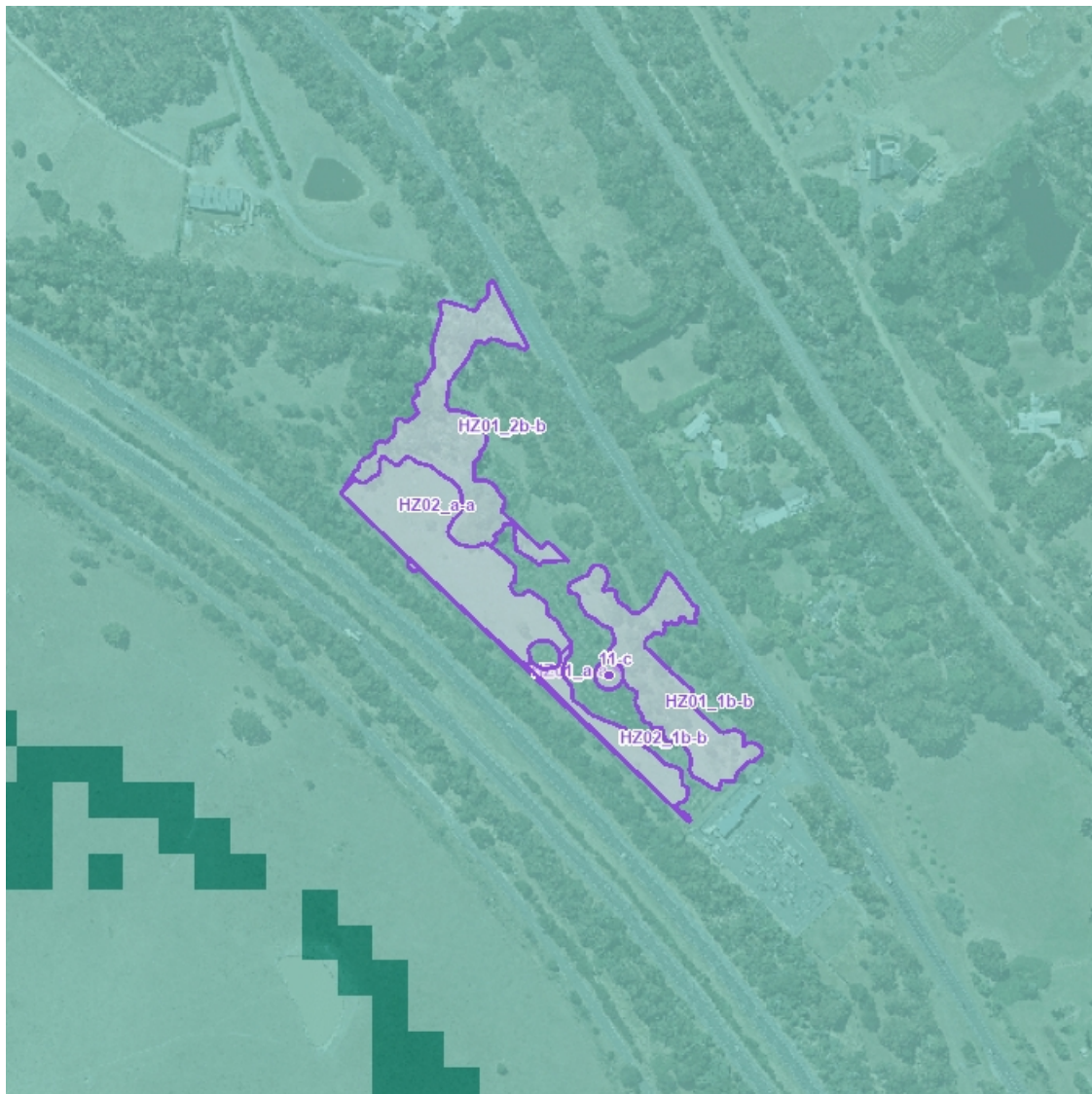


- Proposed Removal
- Past Removal
- Partial Removal



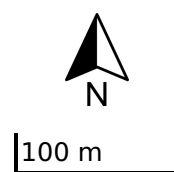
**ADVERTISED
PLAN**

3. Location Risk Map



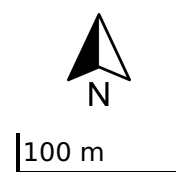
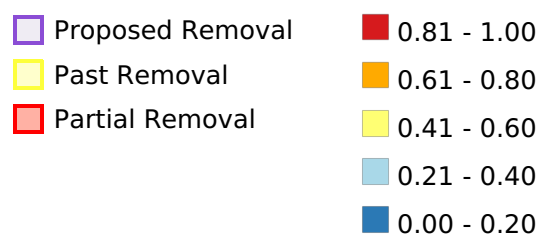
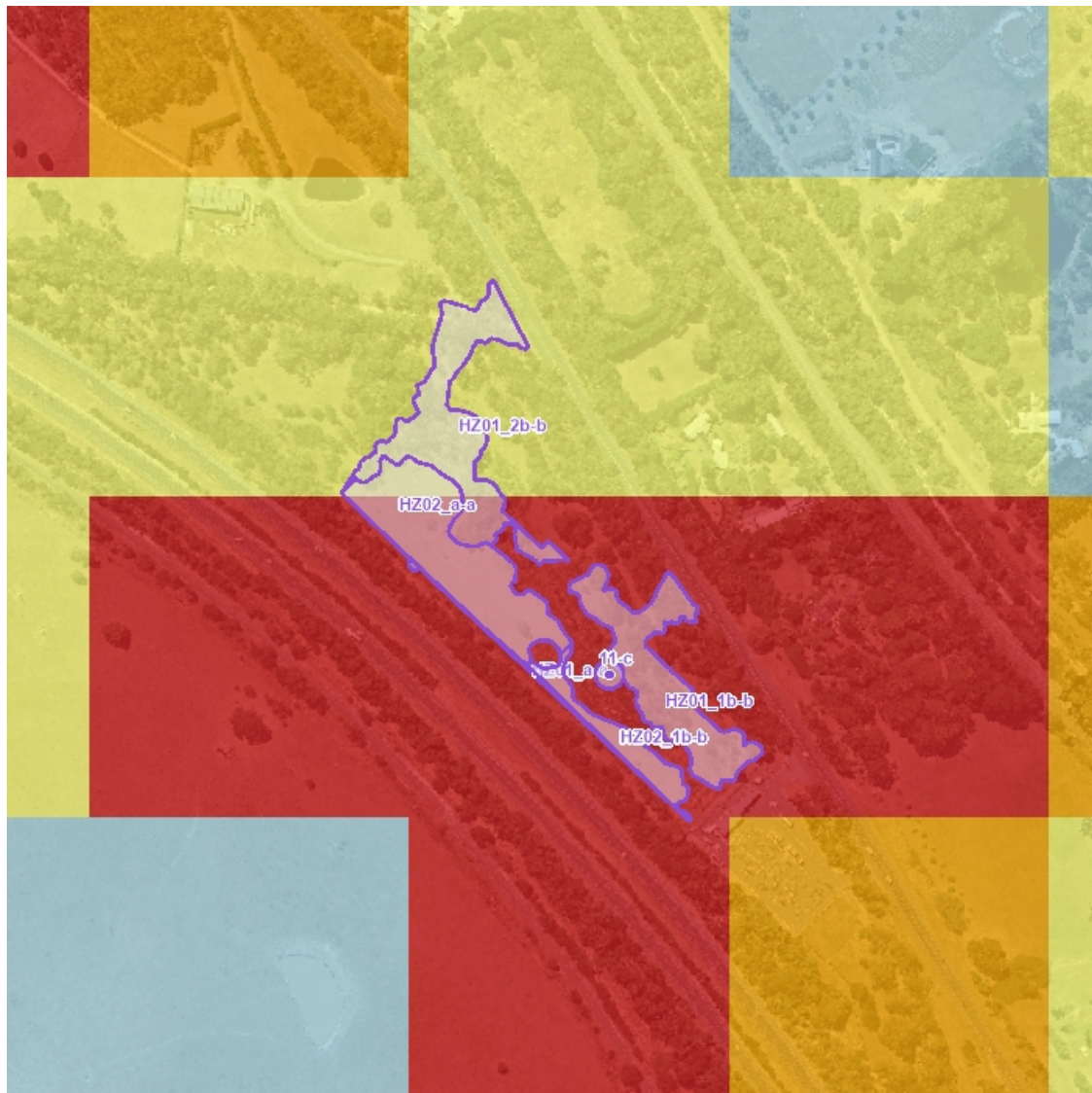
- Proposed Removal
- Past Removal
- Partial Removal

- Location 1
- Location 2
- Location 3



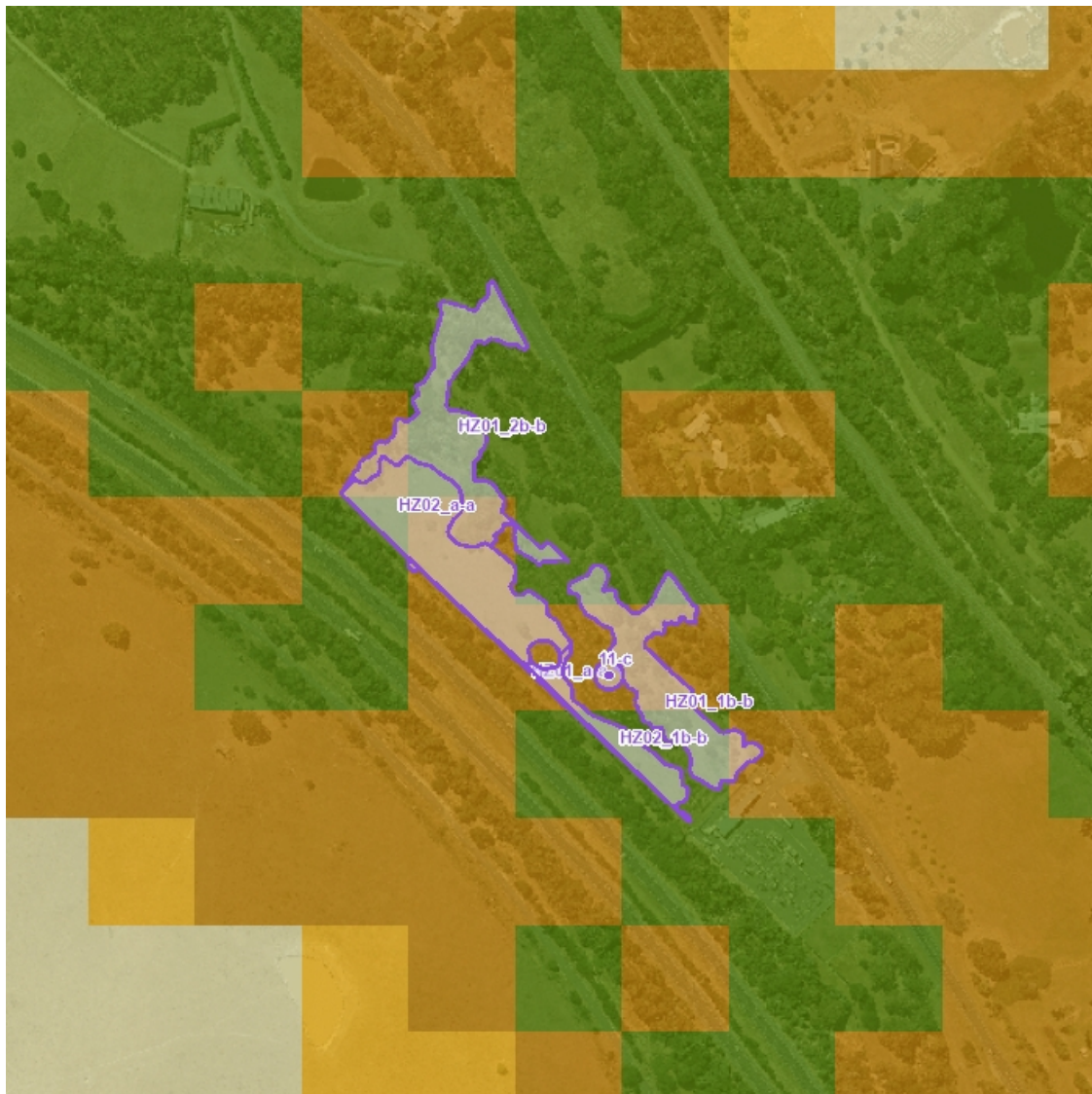
**ADVERTISED
PLAN**

4. Strategic Biodiversity Value Score Map



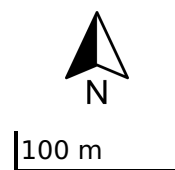
**ADVERTISED
PLAN**

5. Modelled Condition Score Map



- Proposed Removal
- Past Removal
- Partial Removal

- 0.81 - 1.00
- 0.61 - 0.80
- 0.41 - 0.60
- 0.21 - 0.40
- 0.00 - 0.20



**ADVERTISED
PLAN**



6. Modelled Endangered EVCs

Not Applicable

**ADVERTISED
PLAN**

7. Habitat Importance maps

Not Applicable

© The State of Victoria Department of Energy, Environment and Climate Action 2026



This work is licensed under a Creative Commons Attribution 4.0 International licence. You are free to re-use the work under that licence, on the condition that you credit the State of Victoria as author. The licence does not apply to any images, photographs or branding, including the Victorian Coat of Arms, the Victorian Government logo and the Department of Energy, Environment and Climate Change (DEECA) logo. To view a copy of this licence, visit

<http://creativecommons.org/licenses/by/4.0/>

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.

**ADVERTISED
PLAN**

Appendix I: Evidence that appropriate Native Vegetation offsets are available

**ADVERTISED
PLAN**

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: 25/03/2026 03:46

Report ID: 34769

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
1.377	0.6214	10	CMA	Melbourne Water
			or LGA	Macedon Ranges Shire

Details of available native vegetation credits on 25 March 2026 03:46

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	1.499	439	Melbourne Water	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	13.234	65	Melbourne Water	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	2.855	1279	Melbourne Water	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	24.807	2282	Melbourne Water	Nillumbik Shire	No	Yes	No	Abezco, VegLink
BBA-2870	2.252	388	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2871	13.160	1412	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3710_01	6.153	320	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3805_01	2.445	334	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3806_01	2.923	107	Melbourne Water	YARRA RANGES SHIRE	Yes	Yes	No	Yarra Ranges SC
VC_TFN-09554_01	13.291	382	North Central	Macedon Ranges Shire	Yes	Yes	No	Bio Offsets

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

**ADVERTISED
PLAN**

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)
VC_CFL-3746_01	3.415	333	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3792_01	13.566	1228	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3816_01	3.844	159	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	Contact NVOR
VC_CFL-3833_01	7.727	486	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink

LT - Large Trees

CMA - Catchment Management Authority

LGA - Municipal District or Local Government Authority

ADVERTISED

PLAN

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
	Fully traded			
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@deeca.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
IDES	ID Ecological Management	(03) 9437 0555		www.idecological.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

© The State of Victoria Department of Energy, Environment and Climate Action 2026



This work is licensed under a Creative Commons Attribution 4.0 International licence. You are free to re-use the work under that licence, on the condition that you

credit the State of Victoria as author. The licence does not apply to any images, photographs or branding, including the Victorian Coat of Arms, the Victorian Government logo and the Department of Energy, Environment and Climate Action (DEECA) logo. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>

For more information contact the DEECA Customer Service Centre 136 186 or the Native Vegetation Credit Register at 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

**ADVERTISED
PLAN**

Document prepared by

Aurecon Australasia Pty Ltd

ABN 54 005 139 873

Aurecon Centre

Level 8, 850 Collins Street

Docklands, Melbourne VIC 3008

PO Box 23061

Docklands VIC 8012

Australia

T +61 3 9975 3000

F +61 3 9975 3444

E melbourne@aurecongroup.com

W aurecongroup.com

**ADVERTISED
PLAN**

aurecon

*Bringing ideas
to life*

